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2512	7590	07/27/2004	EXAMINER	
PERMAN & GREEN 425 POST ROAD FAIRFIELD, CT 06824			COSIMANO, EDWARD R	
		ART UNIT	PAPER NUMBER	
		3629		

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/938,274	SCHWARTZ ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Edward R. Cosimano	3629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### **Status**

1) Responsive to communication(s) filed on August 23, 2001 & January 09, 2002.  
 2a) This action is **FINAL**.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### **Disposition of Claims**

4) Claim(s) 1-25,82-129 and 184-198 is/are pending in the application.  
 4a) Of the above claim(s) none is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-25,82-129 and 184-198 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### **Application Papers**

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 23 August 2001 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### **Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### **Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>see attached</u>	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

1. Applicant should note the changes to patent practice and procedure:
  - A) effective December 01, 1997 as published in the Federal Register, Vol 62, No. 197, Friday October 10, 1997;
  - B) effective November 07, 2000 as published in the Federal Register, Vol 65, No. 54603, September 08, 2000; and
  - C) Amendment in revised format, Vol. 1267 of the Official Gazette published February 25, 2003.
2. Applicant's claim for the benefit of an earlier filing date under 35 U.S.C. § 119(e) and 35 U.S.C. § 120 is acknowledged.
3. The drawings are objected to because
  - A) the drawings must show every feature of the invention specified in the claims, therefore, the subject matter of:
    - (1) claims 89-91 in regard to the use of a second interface;
    - (2) claim 92 in regard to using the internet as part of the communications link;
    - (3) claims 94, 95, in regard to communication with a certification authority other than the selected recipient for the purpose of verification;
    - (4) claims 97-102, in regard to either transmitting or receiving facsimile information containing any particular content;
    - (5) claim 125, in regard to using the received data to identify the party to which the cost are to be attributed;
    - (6) claim 192, in regard to indicating on the mail piece that the content of the mail piece is included in the mail piece and causing the mail processor to notify the recipient while processing the mail piece; and
    - (7) claims 192-198 in regard to the indicator being anything other than a postage indicia since as disclosed in the paragraphs between page 3, line 28, and page 4, line 20, "Still further, we have revolutionized the concept of a postage indicium which is traditionally used as a proof of postage for mailing services rendered by a postal authority, ... another aspect of the invention, by

incorporating, in addition to the traditional postal data, transactional data including a transaction amount and payment instructions in a postage indicium, the indicium becomes a money order payable to a specified payee. In that instance, when the postal authority inspects the indicium, recognizing that at least part of the indicium represents a money order, the postal authority acts as a payer bank and pays the transaction amount to the specified payee according to the payment instructions. As such, the postage indicium can be used not only as a proof of postage for the mail piece being delivered by the postal authority, but also as a money order to pay bills or repay debts to any party which may or may not be the recipient of the mail piece. In particular, by specifying the payee of the money order represented by the indicium to be a courier (e.g., FedEx) different from the postal authority, and the transaction amount to be the cost of the courier service, we have invented a universal postage indicium for paying any courier service.", applicant intends the word "indicator" as used in these claims to be a postal indicia;

must be shown in the drawings as required by 37 CFR § 1.83(a) or the feature(s) canceled from the claim(s) (note: no new matter should be entered).

B) the following errors have been noted in the drawings:

(1) The drawings are objected to as failing to comply with 37 CFR § 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description, note:

(a) reference number "115" to designated "microprocessor 155" of fig. 1, in the paragraph located at page 6, lines 8-35, "Processor 150 includes rate storage 156 ... search by microprocessor 115 for ... collect on delivery (COD), delivery confirmation response (DCR) and declared value (DV) options.", note also below.

3.1 A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3.2 Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect may be deferred until after the examiner has considered the proposed drawing correction. Failure to timely submit the proposed drawing correction will result in the abandonment of the application.

4. The disclosure is objected to because of the following informalities:

A) applicant must update:

(1) the continuing data on page 1;

with the current status of each of the referenced applications, e.g., --now abandoned--, or --now patent #?--, or --which is abandoned and now serial number #?--, etc.

B) the following errors have been noted in the specification:

(1) as can be seen in fig. 1 and from the context of the paragraph located:

(a) at page 5, lines 19-31, "Fig. 1 illustrates postage payment system 100 ... mail processor 150, ... graphics. Computer 103 is connected to mail processor 150.;"

(b) between page 5, line 32, and page 6, line 7, "Central to mail processor 150 is microprocessor 155 ... interface 169 for connection with printer 190.;"

(c) at page 6, lines 8-35, "Processor 150 includes rate storage 156 ... search by microprocessor 115 for ... collect on delivery (COD), delivery confirmation response (DCR) and declared value (DV) options.;"

(d) at page 7, lines 1-4, "Mail processor 150 ... microprocessor 155 to perform in carrying out different functions to be described.;"

(e) at page 7, lines 5-2, "Referring to Fig. 2, IC card 180 ... mail processor 150, ... typified by smart card technology.;"

(f) between page 7, line 34, and page 8, line 17, "Using a TMS technique ... mail processor 150 ... processor 150 ... mail processor 150, confirming the funds transfer.;"

(g) between page 11, line 30, and page 12, line 3, "After the user decides ... mail processor 155, ... contains information on the length of the ensemble.";

(h) a page 12, lines 9-19, "After the data stream ... mail processor 150, ... processor 150 ... mail processor 150. Such a detection invokes a postage payment routine stored in memory 158.";

(i) between page 12, line 20, and page 13, line 12, "Fig. 5 illustrates a ... microprocessor 155 ... microprocessor 155 ... microprocessor 155 ... 505. Microprocessor 155 ... microprocessor 155 ... rates. Microprocessor 155 ... microprocessor 155 ... may manually enter the weight and rates.";

(j) at page 13, lines 13-30, "Upon receiving ... mail processor 150, ... processor 150. Alternatively, .... mail processor 150. In ... former should have sufficient data capacity.";

(k) between page 13, line 31, and page 14, line 2, "Fig. 6 illustrates ... mail processor 150, ... for authenticating the indicium as mentioned before.";

(l) at page 14, lines 16-34, "Referring back to Fig. 5, after microprocessor 155 ... microprocessor 155 ... microprocessor 155 ... is exposed and can readily be inspected.";

(m) at page 15, lines 9-31, "In a company environment, mail processor 150 ... mail processor 150 ... microprocessor 155 ... microprocessor 155 ... may be required for that purpose.";

(n) between page 15, line 32, and page 16, line 7, "In addition, ... microprocessor 155 ... processor 150, ... allocated to the user/department account.";

(o) at page 16, lines 8-15, "In any event, an ... processor 150 ... processor 150 is then added to the authorized list.";

- (p) at page 16, lines 16-26, "Processor 150 ... and used randomly in real time. ";
- (q) at page 17, lines 3-17, "The above charge-back accounting ... mail processor 150. In ... may be automatically created, updated and maintained. ";
- (r) at page 17, lines 18-28, "The required postage for the above mail pieces processed by processor 150 ... processor 150. Again, before processor 150 ... confirmation of the postage dispensation. ";
- (s) at page 26, lines 24-26, "Further, mail processor 150 ... other controlled access deemed appropriate. ";
- (t) between page 26, line 27, and page 27, line 4, "Mail processor 150 ... mail processor 150 ... properly apply the proof of postage to invoice. ";
- (u) at page 27, lines 5-9, "In addition, will be appreciated that mail processor 150 ... the sender and recipient addresses and their zip codes. ";
- (v) at page 27, lines 10-15, "Moreover, mail processor 150 ... user parameters such as cost and speed. ";
- (w) at page 27, lines 16-19, "Further, mail processor 150 may ... directions set up parameters) and printer applications. ";
- (x) at page 27, lines 20-28, "Still further, mail processor 150 may ... control/smart/PCMCIA card such as card 180. ";
- (y) at page 27, lines 29-36, "It will also be appreciated that mail processor 150 ... converted the transmitted data plain text. ";
- (z) between page 28, line 33, and page 29, line 11, "Finally, although ... mail processor 150 ... processor 150 ... processor 150 with a dedicated/secure printer, thereby 'realizing a self-contained postage metering system. ";

it appears from the disclosure that references the features of the invention depicted in fig. 1, see above, that:

(a) applicant has used reference numbers "155" and "115" to designate microprocessor 155 of fig. 1, therefore to be consistent with the remainder of the disclosure, in the paragraph located at page 6, lines 8-35, "Processor 150 includes rate storage 156 ... search by microprocessor 115 for ... collect on delivery (COD), delivery confirmation response (DCR) and declared value (DV) options.", at line 10 of this paragraph "115" should be -155--; and

(b) applicant has used reference number 155 twice to designate the "mail processor" and the "microprocessor" of the mail processor, therefor to be consistent with the remainder of the disclosure, in the paragraph located between page 11, line 30, and page 12, line 3, "After the user decides ... mail processor 155, ... contains information on the length of the ensemble.", at line 6 of this paragraph "155" should be -150--.

(2) the specification lacks a statement of --We claim:--, (see MPEP 608.01(m)).

C) the subject matter of:

- (1) claims 89-91 in regard to the use of a second interface;
- (2) claim 92 in regard to using the internet as part of the communications link;
- (3) claims 94, 95, in regard to communication with a certification authority other than the selected recipient for the purpose of verification;
- (4) claims 97-102, in regard to either transmitting or receiving facsimile information containing any particular content;
- (5) claim 125, in regard to using the received data to identify the party to which the cost are to be attributed;

(6) claim 192, in regard to indicating on the mail piece that the content of the mail piece is included in the mail piece and causing the mail processor to notify the recipient while processing the mail piece; and

(7) claims 192-198 in regard to the indicator being anything other than a postage indicia since as disclosed in the paragraphs between page 3, line 28, and page 4, line 20, "Still further, we have revolutionized the concept of a postage indicium which is traditionally used as a proof of postage for mailing services rendered by a postal authority, ... another aspect of the invention, by incorporating, in addition to the traditional postal data, transactional data including a transaction amount and payment instructions in a postage indicium, the indicium becomes a money order payable to a specified payee. In that instance, when the postal authority inspects the indicium, recognizing that at least part of the indicium represents a money order, the postal authority acts as a payer bank and pays the transaction amount to the specified payee according to the payment instructions. As such, the postage indicium can be used not only as a proof of postage for the mail piece being delivered by the postal authority, but also as a money order to pay bills or repay debts to any party which may or may not be the recipient of the mail piece. In particular, by specifying the payee of the money order represented by the indicium to be a courier (e.g., FedEx) different from the postal authority, and the transaction amount to be the cost of the courier service, we have invented a universal postage indicium for paying any courier service.", applicant intends the word "indicator" as used in these claims to be a postal indicia;

lacks antecedent basis within the specification as required by 37 CFR § 1.75(d1).

Appropriate correction is required.

5. The specification and drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification or drawings.

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Applicant should note the requirements of 37 CFR § 1.74, § 1.75, § 1.84(o,p(5)), § 1.121(a)-1.121(f) & § 1.121(h)-1.121(i).

6. Claims 89-92, 94, 95, 97-102, 125 & 192-198, are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6.1 The subject matter of:

- A) claims 89-91 in regard to the use of a second interface;
- B) claim 92 in regard to using the internet as part of the communications link;
- C) claims 94, 95, in regard to communication with a certification authority other than the selected recipient for the purpose of verification;
- D) claims 97-102, in regard to either transmitting or receiving facsimile information containing any particular content;
- E) claim 125, in regard to using the received data to identify the party to which the cost are to be attributed;
- F) claim 192, in regard to indicating on the mail piece that the content of the mail piece is included in the mail piece and causing the mail processor to notify the recipient while processing the mail piece; and
- G) claims 192-198 in regard to the indicator being anything other than a postage indicia since as disclosed in the paragraphs between page 3, line 28, and page 4, line 20, "Still further, we have revolutionized the concept of a postage indicium which is traditionally used as a proof of postage for mailing services rendered by a postal authority, ... another aspect of the invention, by incorporating, in addition to the traditional postal data, transactional data including a transaction amount and payment instructions in a postage indicium, the indicium becomes a money order payable to a specified payee. In that instance, when the postal authority inspects the indicium, recognizing that at least part of the indicium represents a money order, the postal authority acts as a payer bank and pays the transaction amount to the specified payee according to the payment instructions. As such, the postage indicium can be used not only as a proof of postage for the mail piece being delivered by the postal authority, but

also as a money order to pay bills or repay debts to any party which may or may not be the recipient of the mail piece. In particular, by specifying the payee of the money order represented by the indicium to be a courier (e.g., FedEx) different from the postal authority, and the transaction amount to be the cost of the courier service, we have invented a universal postage indicium for paying any courier service.", applicant intends the word "indicator" as used in these claims to be a postal indicia; lacks antecedent basis within the specification as required by 37 CFR § 1.75(d1).

6.2 For the above reason(s), applicant has failed to particularly point out what is regarded as the invention.

7. Claim 95 is rejected under 35 U.S.C. § 112, fourth paragraph, as being of improper dependent form for failing to further limit the subject matter of a previous claim.

7.1 Since for the purposes of the instant invention one of ordinary skill at the time of the invention would have recognized that when the communicator verifies access by the recipient to the information (claim 95) is in fact equivalent to the communicator verifying that the recipient has received the information (claim 94) and both claims 94 & 95 depend from claim 93, claim 95 fails to further limit claim 94.

8. Claims 192-198 are provisionally rejected under the judicially created doctrine of double patenting over claims 192-205 & 208-210 of copending Application No. 08/973,293. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

8.1 The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows:

A) in regard to claims 192-198, a postage indicia that contains data/information that causes the mail processor to perform some action.

8.2 The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent

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possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

8.3 A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

8.4 Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

9.1 Claims 1-14, 16-25, 82-85, 89-91, 96, 103-118, 120-129, 184-187 & 191 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by either Wright et al (4,802,218 or 4,900,903 or 4,900,904) or Talmadge (4,809,185 or 4,858,138) or Chickneas et al (4,813,912) or Freytag (5,490,077).

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9.2 Claims 1-14, 16-25, 82-85, 89-91, 96, 103-118, 120-129, 184-187 & 191 are rejected under 35 U.S.C. § 102(e) as being clearly anticipated by either Freytag (5,602,743) or Lee et al (5,625,694) or Arsenault et al (5,651,103).

9.3 In regard to claims 1-14, 16-25, 82-85, 89-91, 96, 103-118, 120-129, 184-187 & 191 any one of Wright et al ('218 or '903 or '904) or Talmadge ('185 or '138) or Chickneas et al ('912) or Freytag ('077 or '743) or Lee et al ('694) or Arsenault et al ('103) disclose a computerized postage metering system under the control of an appropriate operating/control program/software store in a computer readable medium. In these postage metering systems a separate smart card IC device, that is a device containing a processor and memory is used to perform the function of a postage security device (PSD) or vault that dispenses and stores the value of postage that may be printed by the associated postage metering system as well as a recording the amount of dispensed postage. When the IC device has been inserted into a second computerized system that forms the remainder of the postage metering system, then the function of a postage meter may be realized by the dispensing of postage value and an indication in the form of an indicia may be printed as proof of the payment of the postage for the item of mail. Further in these systems a processor, based on:

- A) entered/received attributes of an item of mail that may be required in order to determine the correct postage value, for example, number of pages, weight, destination, etc.; and

- B) the appropriate shipping rate data;

verifies the entered/received data for correctness and completeness and then determines the appropriate delivery cost or postage value for the item of mail. On the correct postage has been determined, then the determined amount of postage is requested from the IC device. If there is sufficient funds stored in the IC device and the request is approved, then the processor of the IC device accounts for the requested postage value and generates an indicator or postage indicia data that includes an encrypted digital signature as proof of the payment of the required postage. The generated indicia data is then transmitted from the IC device through an appropriate interface to the remainder of the postage metering system so that it may be printed

on the item of mail at an appropriate location. Once printed the indicia is visible to the mail processing equipment of the Post Office.

9.3.1 In regard to the types of encryption used RSA (claims 4, 104 & 110) or DSA (claims 5, 105 & 111), since the systems of any one of Wright et al ('218 or '903 or '904) or Talmadge ('185 or '138) or Chickneas et al ('912) or Freytag ('077 or '743) or Lee et al ('694) or Arsenault et al ('103) require the use of an encryption algorithm, it would have been inherent to one of ordinary skill that any suitable encryption algorithm could be used.

9.3.2 In regard to the refilling of claims 7 & 112, since the systems of any one of Wright et al ('218 or '903 or '904) or Talmadge ('185 or '138) or Chickneas et al ('912) or Freytag ('077 or '743) or Lee et al ('694) or Arsenault et al ('103) are refillable by adding additional funds, it would have been inherent to one of ordinary skill that the processor of the IC has the ability to add funds to the stored value of funds to be dispensed.

9.3.3 In regard to the reading of the indicator by a scanner of claim 12, note the use of PDF 417 barcodes.

9.3.4 In regard to the data base of claims 23-24 & 127-129, it is noted that the postal regulations require various types of information about a batch of mail, this would be so whether the batch consisted of one item mail or more than one item of mail, the mailing systems of any one of Wright et al ('218 or '903 or '904) or Talmadge ('185 or '138) or Chickneas et al ('912) or Freytag ('077 or '743) or Lee et al ('694) or Arsenault et al ('103), hence, it would have been inherent to one of ordinary skill that these systems must keep track of all necessary information concerning the preparation of the item or items of mail.

9.3.5 In regard to the controlled access of claims 85 & 185, since the systems of any one of Wright et al ('218 or '903 or '904) or Talmadge ('185 or '138) or Chickneas et al ('912) or Freytag ('077 or '743) or Lee et al ('694) or Arsenault et al ('103) require two separate components to function as a postage meter, it would have been inherent to one of ordinary skill that these systems contain the claimed control element for controlling access to the system.

9.4 Claims 8-25 & 113-129 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Sansone et al (4,947,333).

9.4.1 In regard to claims 8-25 & 113-129, Sansone et al ('333: see fig. 8 and column 8, lines 24-56) discloses a postage metering system in which attributes of an item of mail are used to determine the appropriate postage. Then if the required postage is approved a postage indicia and proof of payment are generated. Next the postage indicia and/or proof of payment data and the content information are printed on the item of mail so as to be visible to the mail processing equipment of the Post Office.

9.5 Claims 192-198 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Perazza (5,326,959).

9.5.1 In regard to claims 192-198, Perazza ('959) discloses an electronic bill payment system in which a first party, i.e. bank, provides the electronic bill payment service for a fee to it's customers (column 9, lines 25-44, "1. The opportunity to provide a new service for a fee ... can themselves operate as Payer's bank."). The bill payment service of Perazza ('959) requires that the bank collect the necessary payment information from it's customers. Once the necessary information has been obtained, the bank would periodically generate a document for each customer with an with various preprinted indicia on the document. The preprinted indicia include identifying indicia for the payer and payee as well as the transaction data to indicate the amount to be paid to a payee, i.e. second party. After the bank receives the document, the bank processes the document by scanning the document and then causing the amounts specified in the transaction data to be paid to the second party. It is noted further noted that since the bank charges a fee for the bill paying service, the generation of the document inherently indicates proof of payment for the bill paying service.

10. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

(c) Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

10.1 Claim 92 is rejected under 35 U.S.C. § 103(a) as being unpatentable over either Wright et al (4,802,218 or 4,900,903 or 4,900,904) or Talmadge (4,809,185 or 4,858,138) or Chickneas et al (4,813,912) or Freytag (5,490,077 or 5,602,743) or Lee et al (5,625,694) or Arsenault et al (5,651,103) as applied to claims 1-14, 16-25, 82-85, 89-91, 96, 103-118, 120-129, 184-187 & 191 and further in view of Shah et al (5,822,738) as evidenced by In re Japikse, 86 U.S.P.Q. 70 @ 73 (CCPA, 1950)).

10.1.1 In regard to claim 92, neither Wright et al ('218 nor '903 nor '904) nor Talmadge ('185 nor '138) nor Chickneas et al ('912) nor Freytag ('077 nor '743) nor Lee et al ('694) nor Arsenault et al ('103) disclose using the internet as part of the communications network between the PSD and the remainder of the postage metering system, however in the environment of computerized postage metering systems, Shah et al ('738) discloses a secured metering device (SMD) or PSD that has been licensed by the Postal Authority to store and dispenses postage and is used by a postage vendor to dispense postage to customers of the vendor. When a customer, that is located remotely from the SMD, at the customer's general purpose PC desires to print postage on an item of mail using the user's general purpose printer, then the user at the PC would create a request for postage. Where the request for postage would include at least an identification of the customer, the originating location, the postage value, class of service, destination zip code, piece count or transaction number, an indication of the method of payment, as well as any other information required to determine the correct postage for an item of mail. Next, the generated request for postage is transmitted to remotely located SMD via a suitable communications network, for example the internet. The SMD then uses the transmitted information to:

A) validate the request and whether there are sufficient funds for the requested postage value to be printed;

- B) account for the requested postage in a single general account or an individual account for the user; and
- C) to generate a print file of a valid postage indicia that includes encode information as evidence of postage payment.

The print file is then transmitted back to the identified user at the PC via a suitable communications network where the postage is printed on item of mail by user using the user's printer. The above process is repeated for each user at a PC that is requesting to print postage on an item of mail. Since the remote SMD of Shah et al ('738) performs the same function as the PSD of each of Wright et al ('218 or '903 or '904) or Talmadge ('185 or '138) or Chickneas et al ('912) or Freytag ('077 or '743) or Lee et al ('694) or Arsenault et al ('103) which must use a suitable communications link between the PSD and the remainder of the postage metering system, it would have been obvious to one of ordinary skill at the time of the invention that the postage metering systems of either Wright et al ('218 or '903 or '904) or Talmadge ('185 or '138) or Chickneas et al ('912) or Freytag ('077 or '743) or Lee et al ('694) or Arsenault et al ('103) could be modified to use a remotely located PSD that is in communications with the rest of the systems of either Wright et al ('218 or '903 or '904) or Talmadge ('185 or '138) or Chickneas et al ('912) or Freytag ('077 or '743) or Lee et al ('694) or Arsenault et al ('103) via a suitable communications link, such as the internet as taught by Shah et al ('738). For as the Court has stated it is not invention to merely move the location of a device, since the new position does not affect, i.e. modify the operation of the device, (In re Japikse, 86 U.S.P.Q. 70 @ 73 (CCPA, 1950)).

11. The following is an Examiner's Statement of Reasons for Allowance over the prior art:

A) the prior art, for example:

- (1) either Wright et al (4,802,218 or 4,900,903 or 4,900,904) or Talmadge (4,809,185 or 4,858,138) or Chickneas et al (4,813,912) or Freytag (5,490,077 or 5,602,743) or Lee et al (5,625,694) or Arsenault et al (5,651,103) disclose a smart card IC device, that contains a processor and memory, performs the function of a postage security device (PSD) or vault by creating indicia and dispensing, storing and recording the value of postage

requested by a user wishing to mail an item using the associated postage metering system into which the IC card has been inserted.

(2) Taylor et al (4,812,994) which disclose the use of passwords entered by the user to determine whether or not an user may operate a postage meter to dispense postage or perform any other postage metering function.

(3) Moore (5,452,203) which discloses a system for cleansing mailing lists.

(4) either Cordery et al (5,628,249) or Harman et al (5,684,706) which disclose that data representing the contents of a item of mail may be processed to produce the final item of mail.

(5) Manduley (5,650,934) for a mailing system in which merged content and postage evidence information are printed separately.

B) however in regard to claims 15 & 119, the prior art does not teach or suggest including data indicative of a selected location with in received data representing at least part of the content of an item of mail.

C) however in regard to claims 86-87, the prior art does not teach or suggest including a management subsystem for processing documents with in the postage metering systems of the prior art.

D) however in regard to claim 88, the prior art does not teach or suggest including a function of cleansing mailing address as the mail is processed by the postage metering systems of the prior art.

E) however in regard to claims 93-95 & 188-190, the prior art does not teach or suggest including a communicator for communicating information to a recipient with in the postage metering systems of the prior art.

F) however in regard to claims 97-102, the prior art does not teach or suggest including a facsimile transmitter/receiver with in the postage metering systems of the prior art.

12. The examiner has cited prior art of interest, for example:

- A) Raspa (EP 0286768) which discloses the use of payment slips that are used to pay bills from an account at the Post Office.
- B) Abumehdi (5,508,933) which discloses the sequence of steps performed when accounting for dispensed/printed postage.
- C) the Managing Office Technology article, which discloses that a postage indicia contains proof of payment for a service.
- D) Gilham (GB 2319271) or Brookner et al (WO 99/66456) or Bielski which disclose the use of payment verification when paying bills.
- E) Critelli (6,260,023), which discloses that a postage indicia contains proof of payment for a service and may contain other non-postage related information.
- F) Linehan (6,327,578), which discloses a computer payment system that generates a token/indicia where the token causes the processor of the token to pay the amount specified in the token to another party.
- J) Antognini et al (2002/00230555), which discloses a computer payment system that generates a document that contains an indicia with the information necessary to cause the processor of the token to pay the amount specified in the document to another party.

13. The examiner has considered the prior art cited in the parent application serial number 08/973,293 as cited on the PTO-1449 filed 09 January 2002; 15 February 2002; 27 February 2002 & 04 March 2003.

14. Applicant must supply the:

- A) articles mentioned in the paragraphs located:
  - (1) at page 1, lines 14-25; “ Well-known cryptographic methods ... one may refer to: M. Smid et al., “The Data Encryption Standard: Past and Future,” Proceedings of the IEEE, Vol. 76, No. 5, May 1988. This ... alternately applied to the data.”; and
  - (2) between page 1, line 26, and page 2, line 4; “Also well-known is the RSA ... one may refer to: R. Rivest et al., “A Method for Obtaining Digital

Signatures and Public Key Cryptosystems," Communications of the ACM, Vol. 21, No. 2, February 1978. The ... use of very large numbers for the keys.".

B) the following foreign documents mentioned in the paragraphs located at page 7, lines 13-33, "Secure memory 207 ... and U.S. Patent No. 4,097,923.";

- (1) WO 89-11134;
- (2) EP 527010;
- (3) EP 737944;
- (4) EP 442671; and
- (5) WO 86-05611.

15. The shorten statutory period of response is set to expire 3 (three) months from the mailing date of this Office action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward Cosimano whose telephone number is (703) 305-9783. The examiner can normally be reached Monday through Thursday from 7:30am to 6:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Weiss, can be reached on (703)-308-2702. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-1113.

16.1 The fax phone number for UNOFFICIAL/DRAFT FAXES is (703) 746-7240.

16.2 The fax phone number for OFFICIAL FAXES is (703) 872-9306.

16.3 The fax phone number for AFTER FINAL FAXES is (703) 872-9306.

07/24/04

*Edward Cosimano*  
Edward R. Cosimano  
Primary Examiner A.U. 3629

8/9/1 (Item 1 from file: 15)

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01472529 01-23517

New postal imprinting to affect Soho

Anonymous

Managing Office Technology v42 n6 PP: 13 Jun 1997

CODEN: MOFTDB

ISSN: 1070-4051

JRNL CODE: MOP

DOC TYPE: Journal article

LANGUAGE: English

LENGTH: 1 Pages

WORD COUNT: 274

1 ABSTRACT: Digital identification - the greatest change in postal imprinting - is expected  
2 to be in test use in the US by fall 1997. The main component will be small electronic postage  
3 meters that attach to a personal computer and allow users to refill postage via the Internet or by  
4 telephone using credit cards or smart cards for payment.

5 TEXT: The greatest change in postal imprinting--digital identification--is expected to be  
6 in test use in the U.S. by the fall of this year. The main component of this revolutionary change  
7 will be small electronic postage meters that attach to a personal computer and allow users to refill  
8 postage via the Internet or by telephone using credit cards or "smart" cards for payment.

9 With the new **Information Based Indicia** Program (IBI) postal system, **proof of payment**  
10 of postage will also be "intelligent," thanks to the use of a barcode symbol imaged onto the upper  
11 right-hand corner of each envelope by the user's PC printer. The postal authorities are  
12 incorporating methods they hope will foil even the most dedicated and sophisticated hackers. Each  
13 imprint carries unique information, creating a totally individualized and traceable entity. There's  
14 also room for a small advertisement.

15 "This is a giant breakthrough," says Richard Ekstract, chairman of the Home Office  
16 Association of America, Inc. (New York, NY). "Before, home office business users had to make  
17 a special trip to a local post office and stand in line to purchase stamps. That could take 30  
18 minutes or more. The alternative was to lease a postage imprint machine. These are often bulky  
19 and not inexpensive."

20 The current concept requires a Postal Security Device, a unique device that holds the  
21 monetary registers that are the cashbox of postage use. As part of the indicia generation process,  
22 it provides the monetary information to the host system, which will have software interacting with  
23 the user.

24 (Illustration Omitted) Captioned as: This is a mockup of what the IBI might look like in the  
25 right-hand corner of an envelope.

THIS IS THE FULL-TEXT. Copyright Penton Publishing 1997

17/9/32 (Item 1 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB (c)2000 The Gale Group. All rts. reserv.

11582513 SUPPLIER NUMBER: 54225152 (THIS IS THE FULL TEXT)

Billpay, revisited.(Trisense Software's PaySense)(Brief Article)

Bielski, Lauren

ABA Banking Journal, 91, 3, 56(1)

March, 1999

DOCUMENT TYPE: Brief Article ISSN: 0194-5947 LANGUAGE: English

RECORD TYPE: Fulltext

WORD COUNT: 225 LINE COUNT: 00021

1 TEXT:

2 As we said in February (see Billpay p.54), electronic bill presentment is finally coming  
3 on-line in 1999. Another company with a solution designed to embrace rather than disintermediate  
4 banks, is Trisense Software, Ltd. The company's secure, email based solution, PaySense, works  
5 as follows:

6 1. Statements or invoices are prepared for printing by existing host billing software;  
7 2. The PaySense Bill server (controlled by the bank or biller) translates print file into bill  
8 images;  
9 3. PaySense bill server places each bill image into a customer's private bill mailbox;  
10 4. Customers use free PaySense smart viewer software to pick up their bills;  
11 5. Customers review bills and schedule payments with the PaySense smart viewer;  
12 6. The PaySense smart viewer places payment instruments in a biller's private mailbox;  
13 7. PaySense bill server collects payments, prepares deposits, and updates biller's host.

14 Trisense says that firewalls and encryption are "only the beginning" of its security  
15 measures. PaySense provides anonymous communication over the Internet; sensitive data (e.g.,  
16 name, account number) is never sent or stored on the Internet. Instead, it is stored on each  
17 end-user's C-drive where it is re-populated into the bill when it arrives (at the user's computer).  
18 A numerical code is used to ensure that the biller sends the correct bill.

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US-PAT-NO: 5490077

DOCUMENT-IDENTIFIER: US 5490077 A

TITLE: Method for data input into a postage meter machine, arrangement for franking postal matter and for producing an advert mark respectively allocated to a cost allocation account

DATE-ISSUED: February 6, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Freytag; Claus	Berlin	N/A	N/A	DE

US-CL-CURRENT: 705/405, 235/375, 235/380, 235/381

ABSTRACT: A method for data entry into a postage meter machine before the initiation of a selected printer function, an arrangement for franking postal matter and for producing a franking image respectively allocated to a cost allocation account include automatic modification of the most recent status of stored data contents in a postage meter machine for the setting thereof within a time window following the switch-on on the basis of a first data carrier and/or automatic entry of an accounting number for the cost allocation account of the user and/or of a printer function or the number of a printer function into a memory area of a memory of the postage meter machine on the basis of a further data carrier. The data carriers may be chip cards. Data for the chip card number, for the cost allocation account number and for the advert number are read out an the unprotected memory area or, after automatic password rendering, from the protected memory area of the chip card by the postage meter machine and are used in the postage meter machine for setting the cost allocation account and the associated advertising design.

18 Claims, 15 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 11

----- KWIC -----

Abstract Text - ABTX (1): A method for data entry into a postage meter machine before the initiation of a selected printer function, an arrangement for franking postal matter and for producing a franking image respectively allocated to a cost allocation account include automatic modification of the most recent status of stored data contents in a postage meter machine for the setting thereof within a time window following the switch-on on the basis of a first data carrier and/or automatic entry of an accounting number for the cost allocation account of the user and/or of a printer function or the number of a printer function into a memory area of a memory of the postage meter machine on the basis of a further data carrier. The data carriers may be chip cards. Data for the chip card number, for the cost allocation account number and for the advert number are read out an the unprotected memory area or, after automatic password rendering, from the protected memory area of the chip card by the postage meter machine and are used in the postage meter machine for setting the cost allocation account and the associated advertising design.

TITLE - TI (1): Method for data input into a postage meter machine, arrangement for franking postal matter and for producing an advert mark respectively allocated to a cost allocation account

Brief Summary Text - BSTX (3): The present invention is directed to a method for data entry into a postage meter machine, and to an apparatus for franking postal matter and for producing a franking advert mark uniquely allocated to a data center which communicates with the meter to alter the contents of accounting registers in the meter.

Detailed Description Text - DETX (29): b1 switching to the printing mode "franking", optionally with advert mark selection dependent on cost allocation accounts, with "high franking value" dependent on cost allocation accounts and with "maximum franking sum" dependent on cost centers

Detailed Description Text - DETX (84): FIG. 4 shows the further course of the operation of the postage meter machine after the data entry has ensued. Proceeding from the system management routine 200, a test mode 202 for testing the individual postage meter machine functions can be set in addition to the operating mode 201. After entry into the operating mode 201, the data editing mode 205 is otherwise reached via the input mode 203. The franking stamp image data that are non-volatilely stored in compressed form, are expanded for generating the fixed pixel image data and are intermediately stored in a volatile main memory of the memory unit 3, which is also referred to as the pixel memory. Variable pixel image data are generated from the non-volatilely stored input data (postage value of the most recent input or current, weight-dependent, input postage value and the date which has been set) and are transferred into the pixel memory wherein this data are combined with the stored in the pixel memory.

Detailed Description Text - DETX (111): A franking is now possible with the data that have been set, i.e. the postage value and the date, whereby the impression of the advertising design ensues as though it had been set via the keyboard. The cost allocation account functions are likewise implemented as though they had been set via the keyboard.

US-PAT-NO: 5535279

DOCUMENT-IDENTIFIER: US 5535279 A

TITLE: Postage accounting system including means for transmitting a bit-mapped image of variable information for driving an external printer

DATE-ISSUED: July 9, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Seestrom; Frank E.	Weston	CT	N/A	N/A
US-CL-CURRENT: 380/55, 380/51				

ABSTRACT: A postage accounting system comprising: structure means for accounting for postage; printing structure externally of the accounting structure, the printing structure including a printing module and a computer for controlling the printing module, the printing module including printing apparatus and structure for sequentially feeding each item of a predetermined plurality thereof to the printing apparatus for printing thereon, the computer programmed for sequentially transmitting variable information for each item to the accounting structure, the variable information including at least a portion of the mailing address for each item; the postage accounting structure including structure for connecting the accounting module in communication with the printing structure, the accounting structure including structure for sequentially encrypting the variable information received for each item, the accounting structure including a microprocessor, the microprocessor programmed for transmitting a bit-mapped image of fixed information to the printing means for printing on each item, and the microprocessor programmed for separately sequentially transmitting a bit-mapped image of the encrypted information for each item to the printing structure for printing thereon.

9 Claims, 3 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 3

----- KWIC -----

Brief Summary Text - BSTX (6): However, the references are silent concerning the provision of a system which includes postage accounting structure having a communications interface, for receiving plain text versions of mailing addresses from an external source thereof, for transmitting fixed postage indicia information once to a separate printer for sequentially printing on each item, including a label or letter, of a plurality thereof which are to be sequentially processed by the printer, and for separately sequentially transmitting AA bit-mapped image of encrypted variable postage indicia and addressing information to the printer for printing on the sequentially processed items.

Brief Summary Text - BSTX (9): another object is to provide postage accounting structure including a communications interface connected for receiving plain text versions of mailing addresses from a source thereof, means for transmitting a bit-mapped image of fixed postage indicia information to a separate printer, once for a

plurality items, including labels or letters, for sequentially printing thereon, and means for sequentially transmitting respective bit mapped images of encrypted variable information for sequentially printing on the respective items; and

**Brief Summary Text - BSTX (10):** another object is to provide a postage value metering system which includes postage value accounting means having encryption structure and a communications interface, means connected to the interface for providing plain text versions of mailing addresses for a plurality of items, including labels or letters, and the accounting means including means for transmitting a fixed portion of a postage indicia once for successively printing on each of the plurality of letters, and the accounting means including means for sequentially transmitting encrypted versions of variable portions of the postage indicia for each item for sequentially printing on the respective items.

**Drawing Description Text - DRTX (4):** FIG. 2 is an elevation of an envelope having printed thereon a verifiable postage indicia printed by the non-secure printing system in accordance with encrypted information received from the secure accounting module; and

**Detailed Description Text - DETX (6):** The NVM 20 (FIG. 1) may be any commercially available non-volatile memory of the type which is suitable for use in a conventional postage meter for storing data which is critical to the operation of the meter and to guard against data access by the User and data losses due to power failures. Accordingly, the non-volatile memory (NVM) 20 preferably has sufficient capacity for storing data corresponding to a current total credit value 60, which is a total value postage currently available for printing, a current total debit value 62, which is the total of all increments of postage 72 which have been decremented from total credit values 60, a control sum 64, which is the sum of the aforesaid values 60 and 62, and a serial number 66 of the accounting module 12. Moreover, the NVM 20 preferably includes sufficient capacity for storing one or more first encryption keys 68A, which may be utilized in an algorithm 70 for changing the total credit and debit values, 60 and 62, under the control of the microprocessor 18. Preferably, the algorithm 70 is also stored in the NVM 20 and is normally implemented under the control of the microprocessor 18 for changing the total credit and debit values, 60 and 62, by decrementing the credit value 60 and incrementing the debit value 62 by an amount which is equal to a current increment of postage 72 (FIG. 2) which is to be printed by the printing module 14 (FIG. 1). Still further, the NVM 20 preferably has sufficient capacity for storing data corresponding to the fixed image portion 74 of a postage indicia 76 (FIG. 2), including, for example, a graphic image 74 of an eagle 78, town circle 80, value box 82 and the current date 84.

**Detailed Description Text - DETX (13):** Thereafter, the printing system program 200 (FIG. 3) implements the step 210 of inquiring whether information pertaining to a mailrun, including the total number of items, including labels or letters, 17 which are to be processed, together with a request for the fixed image portion of the postage indicia, has been manually entered into the printing system computer 15 or 15A, as the case

may be. And, assuming such mailrun information and the fixed image request, 212, has not been received, step 210, then, the program 200 continuously loops through step 210 until the mailrun information and fixed image request 212 is received, step 210. Whereupon, the program 200 implements the step 214 of transmitting the mailrun information and request for the fixed image portion of the indicia to the accounting module 12, followed by the step 216 of inquiring whether the fixed image portion has been received from the accounting module 12, failing which, the program 200 continuously loops through step 216 until the fixed image portion is received. On the other hand, following step 304, the accounting module program 300 implements the step 306 of inquiring whether the mailrun information and request for the fixed image portion of the indicia 214 has been received from the printing system 13, and, assuming that it has not, step 306, then, the program 300 continuously loops through step 306, until the mailrun information and fixed indicia request 214 is received, step 306. Whereupon, the program 300 causes the microprocessor 18 to implement the step 308 of transmitting a bit-mapped image of the fixed portion of the indicia to the printing system 13, for sequential use thereby in the course of sequentially processing each of the items 17 of the mailrun.

Detailed Description Text - DETX (14): Following implementation of step 216 (FIG. 3), the printing system program 200 implements the step 218 of transmitting to the accounting module 12 a request for the variable portion the postage indicia, including the postage value 72 which is to be printed together with at least a selected portion of the mailing address, such as, and preferably, the nine digit zip code 87 of the mailing address 86 which is to be printed on the first item 17 of the mailrun, followed by the step 220 of inquiring whether the requested postage indicia for the particular mailing address has been received. And, assuming the postage indicia as requested in step 218 is not received, step 220, then, the program 200 continuously loops through step 220 until it is received for the particular item 17. On the other hand, following step 308, the accounting module program 300 causes the microprocessor 18 to implement the step 310 of inquiring whether the printing system 13 has transmitted the request, step 218, for the postage indicia accompanied by the selected portion or all of the mailing address, for the first item 17 of the mailrun, and, assuming that it has not, then, the program 300 continuously loops through step 310 until the request for the particular addressee has been received. However, upon receiving the request for postage indicia accompanied by the selected portion or all of the mailing address, step 310, then, the accounting module program 300 causes the microprocessor 18 to implement the step 312 of generating the encrypted information 16 (FIG. 2) for printing on the first item of the mailrun, by encrypting the plain text version of the variable portion of the postage indicia which is to be printed, including at least the postage value 72, and encrypting information included in the mailing address 86, and merging such encrypted indicia and address information to form the encrypted information 16. Thereafter, the accounting module program 300 causes the microprocessor 18 to implement the step 313 of accounting for the current increment of postage value 72 which is to be printed, followed by the step 314 of transmitting a bit-mapped image of the encrypted information 16 and plain text postage value 72 to the printing module 13 for printing thereby. Accordingly, the printing system 13 does not receive, and thus cannot print,

respective increments of postage values 72 without the accounting module 12 not having previously decremented the total credit value 60 and incremented the total debit value 62, stored in the NVM 20, by respective amounts corresponding to the respective increments of postage values 72 which are to be printed. Moreover, the item 17 will have printed thereon encrypted information 16 in which there is embedded an encrypted version of the variable postage value 72 and an encrypted version of information included in the mailing address of the item 17 on which the plain text versions of the postage indicia 74 and mailing address 86 are also printed.

**Detailed Description Text - DETX (15):** When the requested variable portion of the postage indicia is received, step 220 (FIG. 3), the printing system program 200 causes the computer 15 to implement the step 222 of transmitting a request to the accounting module 12 to print the postage indicia, followed by implementing the step 224 of inquiring whether permission to print has been received from the accounting module 12. And, until permission to print is received from the accounting module 12, the program 200 causes the computer 15 to continuously loop through step 224. On the other hand, following step 314, the accounting module program 300 causes the microprocessor 18 to implement the step 316 of inquiring whether a request to print, step 222, has been received from the accounting module 12, failing which, the program 300 causes the microprocessor 18 to continuously loop through step 316 until the request to print is received, step 316. And, when the request to print is received, step 316, the accounting module program 300 causes the microprocessor 18 to implement the step 320 of transmitting a permission-to-print message to the printing module 13.

**Detailed Description Text - DETX (16):** Upon receiving the permission-to-print message, step 224 (FIG. 3), the printing system program 200 implements the step 226 of causing the computer 15 to conventionally operate the printing module 14 for causing the sheet feeding structure 116 to feed the first item 17 from the stack 114 to the printing structure 115, causing the printing structure 115 to print the fixed and variable portions of the postage indicia 76 and the encrypted information 16 on the first item 17, and then causing the feeding structure 116 to feed the first item 17 from the printing module 14. Thereafter, the printing system program 200, implements the step 228 of inquiring whether the prior item, for example, the first label or letter 17 was the last item 17 of the mailrun. Assuming the answer to the inquiry of step 228 is negative, then, the program 200 returns processing to step 218. Thereafter, the printing module program 200 causes the computer 15 to continuously sequentially implement steps 218 through 228, inclusive, for causing the printing module 13 to sequentially process each of the items 17, until the inquiry of step 228 is answered affirmatively. Whereupon the printing system program 200 implements the step 230 of causing the computer 15 to transmit a request to the accounting module 12 to disconnect the on-line communication connection with the printing system 13, followed by the step 232 of inquiring whether the acknowledgment of the request has been received. On the other hand, following implementation of step 320, the accounting module program 300 implements step 322, of delaying processing by the accounting module program 300 for a time interval which is sufficient to allow for the printing system program 200 reasonably to complete implementation of steps 226 and 228, thereby allowing for the printing system 13 to

print the postage indicia and encrypted information on the item and allow for the inquiry of step 228 to be either negatively or affirmatively answered. And, at the end of the time delay, step 322, the accounting module program 300 implements the step 324 of inquiring whether a request for disconnecting the on-line connection has been received by the accounting module 12. Assuming the inquiry of step 324 is negatively answered, then the accounting module program 300 returns processing to step 310. Thereafter, the accounting module program 300 causes the microprocessor 18 to continuously sequentially implement steps 310 through 324, inclusive, for causing the accounting module 12 to sequentially transmit respective plain text versions of postage values together with associated encrypted information including the respective postage values, to the printing system 13, and to account for such postage values to be printed on each of the items 17 which are to be sequentially processed by the printing module 13, until the inquiry of step 324 is answered affirmatively. Whereupon the accounting module program 300 implements the step 326 of causing the microprocessor 18 to transmit an acknowledgment to the printing system 13 of the disconnect request 230 received by the accounting module 12 at step 324. Thereafter, the printing system and accounting module programs 200 and 300, respectively return processing to steps 202 and 302, where the programs 200 and 300 again respectively continuously implements the step 202 and 302 of inquiring whether a request has been received to establish another semi-permanent, i.e., on-line, communication connection for processing the next mailrun.

US-PAT-NO: 5602743

DOCUMENT-IDENTIFIER: US 5602743 A

TITLE: Method for data input into a postage meter machine, arrangement for franking postal matter and for producing a franking design respectively allocated to a cost center

DATE-ISSUED: February 11, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Freytag; Claus	Berlin	N/A	N/A	DE

US-CL-CURRENT: 705/408, 235/375

ABSTRACT: A method for data entry into a postage meter machine before the initiation of a selected printer function, an arrangement for franking postal matter and for producing a franking image respectively allocated to a cost center include automatic modification of the most recent status of stored data contents in a postage meter machine for the setting thereof within a time window following the switch-on on the basis of a first data carrier and/or automatic entry of an accounting number for the cost center of the user and/or of a printer function or the number of a printer function into a memory area of a memory of the postage meter machine on the basis of a further data carrier. The data carriers may be chip cards. Data for the chip card number, for the cost center number and for the design number are read out an the unprotected memory area or, after automatic password rendering, from the protected memory area of the chip card by the postage meter machine and are used in the postage meter machine for setting the cost center and the associated advertising design.

6 Claims, 15 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 11

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Abstract Text - ABTX (1): A method for data entry into a postage meter machine before the initiation of a selected printer function, an arrangement for franking postal matter and for producing a franking image respectively allocated to a cost center include automatic modification of the most recent status of stored data contents in a postage meter machine for the setting thereof within a time window following the switch-on on the basis of a first data carrier and/or automatic entry of an accounting number for the cost center of the user and/or of a printer function or the number of a printer function into a memory area of a memory of the postage meter machine on the basis of a further data carrier. The data carriers may be chip cards. Data for the chip card number, for the cost center number and for the design number are read out an the unprotected memory area or, after automatic password rendering, from the protected memory area of the chip card by the postage meter machine and are used in the postage meter machine for setting the cost center and the associated advertising design.

Brief Summary Text - BSTX (3): The present invention is directed to a method for data entry into a postage meter machine, and to an apparatus for franking postal matter and

for producing a franking advert mark uniquely allocated to a data center which communicates with the meter to alter the contents of accounting registers in the meter.

**Detailed Description Text - DETX (29):** b1 switching to the printing mode "franking", optionally with advert mark selection dependent on cost allocation accounts, with "high franking value" dependent on cost allocation accounts and with "maximum franking sum" dependent on cost centers

**Detailed Description Text - DETX (84):** FIG. 4 shows the further course of the operation of the postage meter machine after the data entry has ensued. Proceeding from the system management routine 200, a test mode 202 for testing the individual postage meter machine functions can be set in addition to the operating mode 201. After entry into the operating mode 201, the data editing mode 205 is otherwise reached via the input mode 203. The franking stamp image data that are non-volatilely stored in compressed form, are expanded for generating the fixed pixel image data and are intermediately stored in a volatile main memory of the memory unit 3, which is also referred to as the pixel memory. Variable pixel image data are generated from the non-volatilely stored input data (postage value of the most recent input or current, weight-dependent, input postage value and the date which has been set) and are transferred into the pixel memory wherein this data are combined with the stored in the pixel memory.

**Detailed Description Text - DETX (111):** A franking is now possible with the data that have been set, i.e. the postage value and the date, whereby the impression of the advertising design ensues as though it had been set via the keyboard. The allocation account cost functions are likewise implemented as though they had been set via the keyboard.

**Claims Text - CLTX (10):** 4. An apparatus for producing a franking image uniquely allocated to one cost center among a plurality of cost centers comprising:

**Claims Text - CLTX (14):** a non-volatile memory contained in said processor into which said data from said chip card are downloaded by said processor, and said processor including means, after downloading said data from said chip card, for automatically setting said printer to cause the printing of a franking image and for debiting the user account identified by the cost center number of the currently inserted chip card; and

**Claims Text - CLTX (16):** 5. An apparatus for producing a franking image useable with a plurality of different advertisements comprising:

**Claims Text - CLTX (20):** a non-volatile memory contained in said processor having a plurality of advertising images stored therein, each advertising image being uniquely identified by an advertising design number, and said processor downloading said data from a currently inserted chip card into said non-volatile memory and said processor including means, after downloading said data from currently inserted chip card, for automatically setting said printer apparatus to cause the printing of a franking image

and an advertising image corresponding to the advertising design number on the currently inserted chip card.

Claims Text - CLTX (21): 6. An apparatus for producing a franking image uniquely allocated to one cost center among a plurality of cost centers and combined with one advertisement among a plurality of advertisements, comprising:

Claims Text - CLTX (25): a non-volatile memory contained in said processor having a plurality of advertising images stored therein, each advertising image being identified by an advertising design number, and said processor downloading said data from the currently inserted chip card into said non-volatile memory, and said processor including means, after downloading said data from said currently inserted chip card, for automatically setting said printer to set said printer apparatus to cause printing of a franking image in combination with an advertising image corresponding to the advertising design number on the currently inserted chip card, and to cause said accounting means to debit the user account corresponding to the cost center number by an amount corresponding to a franking amount.

US-PAT-NO: 5602921

DOCUMENT-IDENTIFIER: US 5602921 A

TITLE: Postage accounting system including means for transmitting ASCII encoded variable information for driving an external printer

DATE-ISSUED: February 11, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ramadei; Michael J. Trumbull	CT	N/A	N/A	
US-CL-CURRENT: 380/51, 380/55, 705/30, 705/408				

ABSTRACT: A postage accounting system comprising: structure for accounting for postage; printing structure externally of the accounting structure, the printing structure including a printing module and computer structure for controlling the printing module, the printing module including printing apparatus and structure for sequentially feeding each item of a predetermined plurality thereof to the printing apparatus for printing thereon, the computer structure including structure programmed for sequentially transmitting variable information for each item to the accounting structure, the variable information including at least a portion of a mailing address for each item; the postage accounting structure including structure for connecting the accounting module in communication with the printing structure, the accounting structure including structure for sequentially encrypting the variable information received for each item, the accounting structure including a microprocessor, the microprocessor including structure programmed for transmitting to the printing structure a bit-mapped image of fixed information for printing on each item, and the microprocessor including structure programmed for separately sequentially transmitting to the printing structure an ASCII encoded string of characters corresponding to the sequentially encrypted information for sequentially printing on the respective items.

17 Claims, 3 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 3

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Brief Summary Text - BSTX (5): The most pertinent of the aforesaid references are: U.S. Pat. No. 4,917,010, which discloses a thermal printer for independently printing fixed and variable information utilizing different printheads at a single printing station; U.S. Pat. No. 5,157,761, which discloses structure for selectively strobing different lines of data which are to be printed by a printhead; U.S. Pat. No. 5,233,657, which discloses structure for transmitting essential portions of a franking image corresponding to a requested franking and completing the franking image with stored image portions; and, U.S. Pat. No. 5,206,812, which discloses a franking machine including a communications port and including a circuit permitting the machine to configure the port to match the communication standards utilized by a given device connected to the franking machine.

**Brief Summary Text - BSTX (6):** However, the references are silent concerning the provision of a postage accounting system which includes a secure postage accounting module, including structure for transmitting a code, corresponding to a variable portion of a postage indicia and an address, to a non-secure printing system which is separated from the accounting module, thereby permitting the printer to make a decision, based on the code, defining the content of the information which is to be printed.

**Brief Summary Text - BSTX (9):** another object is to provide postage accounting structure including a communications interface connected for receiving, from an external source thereof, plain text versions of respective portions of mailing addresses of respective items, including labels and letters, means for transmitting to an external printer fixed postage indicia information once for a plurality items, to be processed by the printer, and means for transmitting a separate string of ASCII encoded characters, respectively corresponding to different variable information, for each of the plurality of items; and

**Brief Summary Text - BSTX (10):** another object is to provide a postage accounting system which includes postage accounting computer means having encryption structure and a communications interface, means connected to the interface for providing at least a portion of the plain text version of each of a plurality of mailing addresses for a corresponding plurality of items, including labels and items, the accounting means including means for transmitting a bit-mapped image of a fixed portion of a postage indicia for sequentially printing on each the plurality of items, and the accounting means including means for sequentially transmitting a separate ASCII encoded string of characters, respectively corresponding to an encrypted version of a portion of an address and a variable portion of the postage indicia, for sequentially printing on the respective items.

**Drawing Description Text - DRTX (4):** FIG. 2 is an elevation of an envelope having printed thereon a verifiable postage indicia printed by the non-secure printing system in accordance with encrypted information received from the secure accounting module; and

**Detailed Description Text - DETX (6):** The NVM 20 (FIG. 1) may be any commercially available non-volatile memory of the type which is suitable for use in a conventional postage meter for storing data which is critical to the operation of the meter and to guard against data access by the User and data losses due to power failures. Accordingly, the non-volatile memory (NVM) 20 preferably has sufficient capacity for storing data corresponding to a current total credit value 60, which is a total value of postage currently available for printing, a current total debit value 62, which is the total of all increments of postage which have been decremented from total credit values 60, a control sum 64, which is the sum of the aforesaid values 60 and 62, and a serial number 66 of the accounting module 12. Moreover, the NVM 20 preferably includes sufficient capacity for storing one or more first encryption keys 68A, which may be utilized in an algorithm 70 for changing the total credit and debit values, 60 and 62, under the control of the microprocessor 18. Preferably, the

algorithm 70 is also stored in the NVM 20 and is normally implemented under the control of the microprocessor 18 for changing the total credit and debit values, 60 and 62, by decrementing the credit value 60 and incrementing the debit value 62 by an amount which is equal to a current increment of postage 72 (FIG. 2) which is to be printed by the printing module 14 (FIG. 1). Still further, the NVM 20 preferably has sufficient capacity for storing data corresponding to the fixed image portion 74 of a postage indicia 76 (FIG. 2), including, for example, a graphic image 74 of an eagle 78, town circle 80, value box 82 and the current date 84. And, the NVM 20 preferably has the capacity for additionally storing data corresponding to one or more serial numbers, 66A, of a corresponding number of external computers respectively having a postal controller program 200 stored therein and authorized to be connected to and operable in communication with the accounting module 12.

**Detailed Description Text - DETX (13):** Thereafter, the printing system program 200 (FIG. 3) implements the step 210 of inquiring whether information pertaining to a mailrun, including the total number of items, including labels or letters, 17 which are to be processed, together with a request for the fixed image portion of the postage indicia, has been manually entered into the printing system computer 15 or 15A, as the case may be. And, assuming such mailrun information and the fixed image request, 212, has not been received, step 210, then, the program 200 continuously loops through step 210 until the mailrun information and fixed image request 212 is received, step 210. Whereupon, the program 200 implements the step 214 of transmitting the mailrun information and request for the fixed image portion of the indicia to the accounting module 12, followed by the step 216 of inquiring whether the fixed image portion has been received from the accounting module 12, failing which, the program 200 continuously loops through step 216 until the fixed image portion is received. On the other hand, following step 304, the accounting module program 300 implements the step 306 of inquiring whether the mailrun information and request for the fixed image portion of the indicia 214 has been received from the printing system 13, and, assuming that it has not, step 306, then, the program 300 continuously loops through step 306, until the mailrun information and fixed indicia request 214 is received, step 306. Whereupon, the program 300 causes the microprocessor 18 to implement the step 308 of transmitting a bit-mapped image of the fixed portion of the indicia to the printing system 13, for sequential use thereby in the course of sequentially processing each of the items 17 of the mailrun. Without departing from the spirit and scope of the invention, step 308 may include the successive steps of fetching the predetermined error code 75 from the NVM 20, followed by the step of accessing the ASCII file "X" and generating an ASCII encoded string of characters corresponding to the error code, represented by the code 75 shown in FIG. 2, and then followed by the step of including the ASCII characters with the bit mapped image of the fixed portion of the postage indicia for transmission to the postage printing system 13.

**Detailed Description Text - DETX (14):** Following implementation of step 216, the printing system program 200 (FIG. 3) implements the step 218 of transmitting to the accounting module 12 a request for the variable portion the postage indicia, including the postage value 72 which is to be printed together with at least a selected portion of

the mailing address, such as, and preferably, the nine digit zip code 87 of the mailing address 86 which is to be printed, on the first item 17 of the mailrun, followed by the step 220 of inquiring whether the requested postage indicia for the particular mailing address has been received. And, assuming the postage indicia as requested in step 218 is not received, step 220, then, the program 200 continuously loops through step 220 until it is received for the particular item 17. On the other hand, following step 308, the accounting module program 300 causes the microprocessor 18 to implement the step 310 of inquiring whether the printing system 13 has transmitted the request, step 218, for the postage indicia accompanied by the selected portion or all of the mailing address, for the first item 17 of the mailrun, and, assuming that it has not, then, the program 300 continuously loops through step 310 until the request for the particular addressee has been received. However, upon receiving the request for postage indicia accompanied by the selected portion or all of the mailing address, step 310, then, the accounting module program 300 causes the microprocessor 18 to implement the step 312 of generating the encrypted information 16 (FIG. 2) for printing on the first item 17 of the mailrun, by encrypting the plain text version of the variable portion of the postage indicia which is to be printed, including at least the postage value 72, and encrypting information included in the mailing address 86, including, preferably, the nine digit zip code thereof, and merging such encrypted indicia and address information to form the encrypted information 16. Without departing from the spirit and scope of the invention, the encrypted information may also include an encryption of the error code 75 which is merged therewith. Thereafter, the accounting module program 300 causes the microprocessor 18 to implement the step 313 of accounting for the current increment of postage value 72 which is to be printed, followed by the step 314 of generating and transmitting to the printing module 13 for printing thereby, an ASCII encoded string of data corresponding to the characters of the encrypted information 16 and plain text postage value 72, and, assuming the error code 75 is embedded in the encrypted information, the ASCII encoded string of data preferably includes data corresponding to the plain text version of the error code.

**Detailed Description Text - DETX (16):** When the requested variable portion of the postage indicia is received, step 220 (FIG. 3), the printing system program 200 causes the computer 15 to implement the step 222 of transmitting a request to the accounting module 12 to print, followed by implementing the step 224 of inquiring whether permission to print has been received from the accounting module 12. And, until permission to print is received from the accounting module 12, the program 200 causes the computer 15 to continuously loop through step 224. On the other hand, following step 314, the accounting module program 300 causes the microprocessor 18 to implement the step 316 of inquiring whether a request to print, step 222, has been received from the accounting module 12, failing which, the program 300 causes the microprocessor 18 to continuously loop through step 316 until the request to print is received, step 316. And, when the request to print is received, step 316, the accounting module program 300 causes the microprocessor 18 to implement the step 320 of transmitting a permission-to-print message to the printing module 13.

Detailed Description Text - DETX (17): Upon receiving the permission-to-print message, step 224 (FIG. 3), the printing system program 200 implements the step 226 of causing the computer 15 to conventionally operate the printing module 14 for causing the sheet feeding structure 116 to feed the first item 17 from the stack 114 to the printing structure 115, causing the printing structure 115 to print the fixed and variable portions of the postage indicia 76 and the encrypted information 16 on the first item 17, and then causing the feeding structure 116 to feed the first item 17 from the printing module 14. Thereafter, the printing system program 200, implements the step 228 of inquiring whether the prior item, for example, the first label or letter, 17 was the last item 17 of the mailrun. Assuming the answer to the inquiry of step 228 is negative, then, the program 200 returns processing to step 218. Thereafter, the printing module program 200 causes the computer 15 to continuously sequentially implement steps 218 through 228, inclusive, for causing the printing module 13 to sequentially process each of the items 17, until the inquiry of step 228 is answered affirmatively. Whereupon the printing system program 200 implements the step 230 of causing the computer 15 transmit a request to the accounting module 12 to disconnect the on-line communication connection with the printing system 13, followed by the step 232 of inquiring whether an acknowledgment of the request has been received. On the other hand, following implementation of step 320, the accounting module program 300 implements step 322, of delaying processing by the accounting module program 300 for a time interval which is sufficient to allow for the printing system program 200 reasonably to complete implementation of steps 226 and 228, thereby allowing for the printing system 13 to print the postage indicia and encrypted information on the item and allow for the of inquiry of step 228 to be either negatively or affirmatively answered. And, at the end of the time delay, step 322, the accounting module program 300 implements the step 324 of inquiring whether a request for disconnecting the on-line connection has been received by the accounting module 12. Assuming the inquiry of step 324 is negatively answered, then the accounting module program 300 returns processing to step 310. Thereafter, the accounting module program 300 causes the microprocessor 18 to continuously sequentially implement steps 310 through 324, inclusive, for causing the accounting module 12 to sequentially transmit plain text and encrypted versions of postage indicia and different encrypted information to the printing system 13, and to account for the postage to be printed on each of the items 17 which are to be sequentially processed by the printing module 13, until the inquiry of step 324 is answered affirmatively. Whereupon the accounting module program 300 implements the step 326 of causing the microprocessor 18 to transmit an acknowledgment to the printing system 13 of the disconnect request 230 received by the accounting module 12 at step 324. Thereafter, the printing system and accounting module programs 200 and 300, respectively return processing to steps 202 and 302, where the programs 200 and 300 again respectively continuously implements the steps 202 and 302 of inquiring whether a request has been received to establish another semi-permanent, i.e., on-line, communication connection for processing the next mailrun.

Claims Text - CLTX (19): 13. The postage accounting system according to claim 11, wherein the printing means includes apparatus for printing respective postage indicia on a plurality of items sequentially fed thereto, the authorized computer means including

means for controlling the printing apparatus, the authorized computer means including means for sequentially transmitting variable information to be printed on each item to the first computer means, the variable information including at least a portion of a mailing address for each item, the first computer means including means for sequentially encrypting the variable information received for each item, the first computer means including means for transmitting fixed information including the error code to the authorized computer for sequentially printing on each of the plurality of items, and the first computer means including means for separately transmitting for each item an ASCII encoded string of characters corresponding to the encrypted information for printing on each item.

US-PAT-NO: 5608636

DOCUMENT-IDENTIFIER: US 5608636 A

TITLE: Method for controlling the column-by-column printing of a franking image in a postage meter machine

DATE-ISSUED: March 4, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
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US-CL-CURRENT: 705/408, 101/71, 358/1.15

ABSTRACT: In a method for controlling the column-by-column printing of a franking image in a postage meter machine, the image data are kept ready in encoded form and are converted into binary signals before a printing event for driving printer elements. Invariable and variable image contents are converted into binary data separately from one another, and the converted variable and invariable image data are combined during the printing of the franking image.

18 Claims, 8 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 5

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Abstract Text - ABTX (1): In a method for controlling the column-by-column printing of a franking image in a postage meter machine, the image data are kept ready in encoded form and are converted into binary signals before a printing event for driving printer elements. Invariable and variable image contents are converted into binary data separately from one another, and the converted variable and invariable image data are combined during the printing of the franking image.

TITLE - TI (1): Method for controlling the column-by-column printing of a franking image in a postage meter machine

Brief Summary Text - BSTX (3): The present invention is directed to a method for controlling the column-by-column printing of a franking image or impression in a postage meter machine, whereby the image data are kept ready in encoded form and are converted into binary signals for driving printer elements before a printing event.

Brief Summary Text - BSTX (5): In this known method of the type described above, a franking image in the form of coded image data is stored in a memory for every possible postage value. When printing the franking image on an envelope, the envelope is passed under a printer head whose printer elements are arranged in a column transversely relative to the conveying direction. A franking image having a suitable postage value is selected and printed dependent on the weight of the letter or on the size of the envelope. Before or during the column-by-column printing, the coded image data are decoded, converted into binary data and binary signals for driving the printer elements are produced therefrom. When many different postage values occur or when

the franking image is to contain other variable image parts such as, for example, a date, then a memory having a large storage capacity, or a large number of electronic memory modules must be provided for storing the coded image data. This requires space to be reserved for the memory or modules in a postage meter machine, and thus increases the technical outlay and costs.

Brief Summary Text - BSTX (6): Another disadvantage is that the conversion of the coded image information for an entire franking image is relatively time-consuming. The time required for coding lengthens the time between two impressions in a postage meter machine, so that the throughput of letters per time unit is limited.

Brief Summary Text - BSTX (7): U.S. Pat. No. 4,580,144 discloses a method wherein the franking image is composed of two sub-images. A constant image part (one sub-image) is printed on an envelope by a first printing station. The postage value (the other sub-image), that can vary dependent on the letter, is printed by a second printing station. The image data for the variable image part are in encoded form and are converted into binary signals at the printing event for driving printer elements of a thermo-transfer printing head. The printing speed for the overall impression can be increased by the division of the franking image to be printed into two partial images. Since two printer heads are utilized in this known solution, however, the technological outlay is high.

Brief Summary Text - BSTX (8): German OS 40 34 292 discloses a printing method wherein a permanently prescribed part of the franking image is stored in the memory in the postage meter machine, whereas another part is kept ready in a data processing system arranged at a remote from the postage meter machine. Data of the permanently prescribed part are transmitted from the data processing system to the postage meter machine and are combined at the postage meter machine before the printing. The data of the permanently prescribed part of the franking image are stored in a non-volatile memory.

Brief Summary Text - BSTX (12): An object of the invention is to specify a method for controlling the column-by-column printing of a franking image in a postage meter machine, whereby a plurality of different franking images can be produced and a high throughput of letters can be achieved given low technical outlay.

Brief Summary Text - BSTX (13): In a method of the type initially described, this object is achieved by converting invariable image contents and variable image contents separately from one another, and then combining the converted variable and invariable image data during (i.e., not before) the printing of the franking image.

Brief Summary Text - BSTX (14): The invention is based on the observation that a separate conversion of the invariable image contents and of the variable image contents into binary signals makes it possible to divide the conversion event and to implement the sub-events at different times. For example, the invariable image contents, which are directed to image parts of the franking image that repeat over and over, can be

converted at a time when no printing is carried out, for example during conveying of envelopes to the printing station. Time for the conversion can thus be saved during the printing event and this can be executed faster. The throughput of letters in the postage meter machine is thus enhanced. As a result of not combining the converted image data until the printing, moreover, the time between the definition of the variable image contents to be printed, which are dependent, for example, on the weight of a letter and the actual printing is minimized. The throughput of letters in the postage meter machine is thereby further increased. As a result of the invention, the variable and invariable image information are combined in time-optimum fashion, so that the franking of postal matter is accelerated overall.

**Brief Summary Text - BSTX (15):** As a result of the separate handling of invariable and variable image contents, the binary data thereof not being combined until during the printing of a franking image, a great number of different franking images can be produced by offering different sets having respective invariable and/or variable image data. Neither a large memory volume nor a complicated hardware technique are required for this purpose. The method can therefore be realized with low technical outlay.

**Brief Summary Text - BSTX (16):** In a preferred exemplary embodiment of the invention, the variable image contents for each printing column are separately converted between the printing of two printing columns, for example, during the conveying of the letter into the printing station for printing the franking image. These variable image contents, as is known, are directed to the variable image parts of the franking image, for example, to the value of the postage fee or to a date. Since the set of variable contents is generally smaller compared to the invariable image contents, only a short time is required for the conversion of the variable image contents into binary signals. The time required for the conversion of coded image contents into binary signals, which has a direct influence on the throughput of envelopes per time unit, is thus shortened. The throughput performance of the postage meter machine is thereby improved further.

**Brief Summary Text - BSTX (17):** In another preferred embodiment, the variable image contents are converted into binary data before the printing of the franking image and are kept ready in a memory, and the binary signals are generated from the binary data. In this exemplary embodiment, the conversion occurs before the printing, i.e. the printing event can be executed in an even shorter time since no time has to be provided for the conversion during printing. The throughput performance of the postage meter machine is thus enhanced even further.

**Brief Summary Text - BSTX (18):** In another exemplary embodiment of the invention, the invariable, coded image contents are kept ready in a read-only memory. These image contents are read out from this read-only memory before the beginning of printing and/or decoded. The read-only memory generally contains the control program for the microprocessor under whose control the method of the invention is implemented. The read-only memory is generally arranged on a chip module and is

replaced given a change of the operating program of the postage meter machine. The invariable image contents for permanently prescribed image parts of a franking image can also be modified in a simple way during this replacement. Since, further, the coded, invariable image contents can be directly taken from the read-only memory, intermediate storage of these image contents is not required. Memory space or electronics modules can thereby be eliminated.

**Brief Summary Text - BSTX (19):** In another embodiment of the invention, the invariable image contents are converted into binary data before the printing of a franking image, binary signals being generated from these binary data. This permits data that are already decoded to be accessed with respect to the constant image part when printing a franking image. The time expended for a data conversion during the printer operation can thus be eliminated. The flexibility of the postage meter machine is thereby improved and the throughput of envelopes per time unit is enhanced further.

**Brief Summary Text - BSTX (20):** In another exemplary embodiment, the coded image contents are provided with control characters that indicate whether the image contents are variable or invariable. The type of image contents, which are usually stored in a memory, can be recognized with reference to these control characters and the image contents can be differently treated upon read-out. The storing or intermediate storing of the image contents dependent on their type is also possible in different memories or memory areas with the assistance of the control characters. The control characters can be attached to every image contents packet (bit sequence), for example in the form of a control bit. The respective binary value characterizes the type of image contents.

**Brief Summary Text - BSTX (22):** In a practical embodiment of the method of the invention, the invariable image contents are sequentially converted into binary data column-by-column and assigned an address, and are checked for control characters. Each address is allocated to a printer element. Given the appearance of a predetermined window control character, the associated address is intermediately stored as a window address. Before the printing of a line, the binary data of the invariable image contents are offered for the appertaining printer elements sequentially according to their address for printing in a printing program. A branch is made to a window program from the printing program when a window address is reached. The variable image contents are converted into binary data in this window program and are offered by address for the appertaining printer elements. A return to the printing program is made after the processing of the window program.

**Brief Summary Text - BSTX (26):** In another embodiment of the invention, a plurality of sets of coded, invariable image contents are kept ready which can be optionally accessed. It thus becomes possible to reset or modify the fixed image parts of the franking image that repeat over and over. For example, the company logo in the franking image can be modified in this way.

**Drawing Description Text - DRTX (2):** FIG. 1 shows an envelope conveyed under a printer head, this envelope being printed with a franking image.

Drawing Description Text - DRTX (4): FIGS. 3a-3d are schematic illustrations for explaining the conversion of the invariable and variable image contents into binary data in accordance with the inventive method.

Drawing Description Text - DRTX (5): FIG. 4 is a flow chart of a program for the conversion of the invariable image contents into binary data and for generating the access to the variable image contents in accordance with the inventive method.

Detailed Description Text - DETX (2): In FIG. 1, an envelope 10 in a postage meter machine is conveyed under a thermo-transfer printer head 12 in the arrow direction 13 with constant velocity  $v$ , and is thereby printed with a franking image 14. The thermo-transfer printer head 12 has a thermal ledge 16 having 240 printer elements d1 through d240 arranged side-by-side. Each of these printer elements d1 through 240 has a filament resistance that can heat the respective printer element d1 through d240 to a temperature at which the ink of a thermal inking ribbon (not shown) conducted past under the thermal ledge 16 melts, and is thereby transferred onto the envelope 10. In this way, the envelope is printed column-by-column raster-like during a conveying motion. The columns s1, s2, s3, sj . . . sn are each printed approximately simultaneously by the printer elements d1 through d240, so that the print format of a column, for example of the column sj, proceeds on a straight line. It should be noted that the present invention, of course, can also be utilized for other printing methods, for example for the ETR printing method (electro-resistive thermo-transfer ribbon).

Detailed Description Text - DETX (3): The franking image 14 has fixed, recurring image parts such as, for example, a frame 18, a text 20, and a picture element 22. Further fixed image parts can, for example, be company logos, addresses and advertising information; these, however, are not shown in FIG. 1 for clarity. The postage pattern 14 also contains variable image parts in windows FE1, FE2, FE3. The window FE1 contains the current postage value that is calculated by the postage meter machine dependent on the weight of the letter or on its size. The window FE2 or FE3 contains data specifically associated to the postage meter machine that are modified dependent on the operation of the postage meter machine.

Detailed Description Text - DETX (5): A conveying motor 32 is driven via the input/output module, this conveying motor 32 moving the envelope 10 beneath the printing ledge 16 of thermo-transfer printer head 12. A coding module 33 generates a signal corresponding to the motion of the motor, so that the exact position of the envelope 10 in the postage meter can be identified. A display 34 displays current operating conditions of the postage meter machine. This display 34 also serves the purpose of displaying the invariable and variable image contents, for example during editing. The input/output module also supplies binary data to a register 36 having a capacity of at least 50 bits, these binary data being converted by a driver 38 into binary signals with which the printer elements d1 through d50 of the thermo-transfer printer head 12 can be driven for printing a column.

**Detailed Description Text - DETX (7):** Data are intermediately stored in a volatile memory 26b serving as a main memory for the microprocessor 24. The microprocessor 24 accesses a further memory 26c that likewise serves as a main memory. This memory 26c is a non-volatile read-write memory. It can be fashioned as a battery-buffered memory or as an EEPROM. Variable image contents, for example those of the windows FE1, FE2 and FE3, are stored therein, as are invariable image contents in an area S1.

**Detailed Description Text - DETX (15):** As a consequence of the invariable image contents, the hexadecimal value "51" appears under the address A3. This value lies outside the defined value range of the runlength coding, that hexadecimally extends from "01" through "32" given 50 printer elements. Within the possible hexadecimal value range of a byte, which, as is known, extends from "00" to "FF", values that appear outside the value range of the runlength coding are interpreted as control characters. The first value "5" of the hexadecimal value "51" has the significance that a window begins within which variable image contents are to be offered. The second value "1" indicates the number of the window, i.e. the window FE1. A plurality of windows can be identified in this way. The method steps implemented upon appearance of a control character shall be set forth below.

**Detailed Description Text - DETX (19):** In a flow chart, FIG. 4 shows the program for generating binary data from the invariable image contents as well as the extraction of the control characters that indicate windows. This program is preferably executed before the activation of the printing mode, for example after a new franking image has been defined or after the existing franking image has been modified. For modifying the franking image, and editing program (not shown) is implemented wherein invariable and variable image contents are deposited in the main memory 26c. After the start of the program in method step 50, the invariable image contents belonging to a desired franking image, which, for example, are deposited in the main memory 26c, are selected and read out in the method step 52. After the loading of the coded data from the registers R1, R2 in method step 54, these printing data are checked for control characters. When the control character having the significance "end of image" appears (method step 56), the program is ended in step 58. Otherwise, a check is carried out in method step 60 to determine whether the control character having the significance "end of column" has appeared. When this applies, a branch is made to step 62, the run variable A is reset to its initial value A=1, and return is made to method step 54 and a switch to the next column ensues.

**Detailed Description Text - DETX (20):** When the result in the testing step 60 is negative, then a check is carried out in the following step 64 to determine whether a control character is present that indicates a window in which variable image contents are to be offered. Given a negative result, the investigated, coded print data comprise invariable image contents and a branch is made to method step 66. The runlength coded datum is decoded there and the binary data are generated according to the explanations directed to FIGS. 3a-3d. Corresponding to the runlength X, the value A of the run variable is incremented and a branch is subsequently made to step 54.

Detailed Description Text - DETX (22): The method steps that are incremented during printing are shown in the further flow chart in FIG. 5. After the start of the program in step 70, the control signal supplied from the electronic scale 28 is analyzed (method step 72) and the postage value to be printed is identified. Dependent on this postage value, data in the main memory 26c having variable image contents are accessed in method step 74, these image contents being allocated to this postage value. These data are offered as window printing data for the window FE1 (method step 74). The access ensues by indexed addressing, as shall be set forth later with reference to method step 94. Since the accessing involves the intermediate storage of the variable image contents, it is characterized as indirect memory addressing, and the aforementioned indexed addressing is thus indirect, indexed addressing.

Detailed Description Text - DETX (23): In the following step 76, a run variable C is loaded, this being interpreted as the address at which the binary data of the invariable image contents are stored in the pixel memory 26a. This run variable C has a fixed relationship to the aforementioned run variable A that, as mentioned is interpreted as address for the binary data of a column. In method step 78, a check is made with reference to the run variable C to determine whether the franking image is completely printed. When this is the case, the printing program is ended in method step 80. Otherwise, a check is made in method step 82 to determine whether an end of column has been reached. When this is true, then all fifty binary information (bits) for the printing of a column are offered in the register 36 (FIG. 2), and this column can be printed in step 84 in a single printing event. Subsequently, the run variable C is set to the start of the next column in method step 86.

Detailed Description Text - DETX (24): Given a negative outcome in step 82, a branch is made to method step 88. Here, the value of the run variable A is calculated from the current value of the run variable C, and a check is carried out in the following step 90 to determine whether the value A corresponds to the value A' that was previously calculated for this column in the program according to FIG. 4 (method step 68). If it is found in step 90 that the current value of the run variable A coincides with the value A', then the coded window printing data offered in the main memory 26c are decoded in step 74, are converted into binary data, are loaded into the register 36 by address on the basis of the run variable A, and are supplied to the thermo-transfer printer head 12 in the step 84 at "end of column". In step 94, moreover, the run variable C is incremented by the length L of the window FE1. Further, an index variable I is incremented by 1. This serves the purpose of allowing the print data can be accessed by indexed addressing in the next column upon conversion of the coded window printing data. Subsequently, a branch is made to step 76. When all printing columns of the franking image have been printed, the printing is exited at "end of image" (step 78). If the current value of the run variable A does not coincide in step 90 with the value A', the run variable C is incremented by 1 in step 92, and a return to step 76 is made.

Detailed Description Text - DETX (26): In a modification of the above exemplary embodiment of the invention, the invariable, binary data that are generated from the

invariable runlength-coded image information by decoding are intermediately stored in a first area of the pixel memory 26a. The variable binary data acquired from the variable image contents are intermediately stored in a second area of the pixel memory 26a. When printing a column, the invariable and variable binary data are read out of the first end of the second area of the pixel memory 26a in the sequence described by the control characters and are entered into the registers 36 for the printing of a column. The combining of the invariable and variable image contents in this modification thus ensues in the register 36.

**Detailed Description Text - DETX (27):** In another modification, the pixel memory 26a is divided into a plurality of memory areas corresponding to the invariable and variable image parts. The division is undertaken with reference to the control characters. The variable image contents can be stored in a memory area of the pixel memory 26a with permanently prescribed addresses corresponding to the pixels of the print image to be printed column-by-column. Given a modification of the binary data of a window, the memory area is accessed via these permanent addresses and the data thereof are modified.

**Claims Text - CLTX (1):** 1. A method for controlling column-by-column printing of a franking image in a postage meter machine, said franking image having invariable image contents and variable image contents, said method comprising the steps of:

**Claims Text - CLTX (2):** maintaining said invariable image contents and said variable image contents available in encoded form for incorporation into said franking impression;

**Claims Text - CLTX (4):** converting said variable image contents into variable image binary data separately from the conversion of said invariable image contents; and

**Claims Text - CLTX (5):** combining said invariable image binary data and said variable image binary data with each in a register only other during printing of said franking impression, and no earlier, to generate binary signals for controlling a column of print elements for printing said franking impression column-by-column with a single printhead, and supplying said binary signals from said register to said single printhead during printing of said franking impression.

**Claims Text - CLTX (7):** 3. A method as claimed in claim 1 wherein the step of converting said variable image contents into variable image binary data is further defined by converting said variable image contents into variable image binary data before printing of said franking impression, and maintaining said variable image binary data in a memory, and generating said binary signals from said variable image binary data during printing of said franking impression.

**Claims Text - CLTX (8):** 4. A method as claimed in claim 1 comprising the additional step of storing said invariable image contents and said variable image contents in coded form respectively in separate areas of a non-volatile memory.

Claims Text - CLTX (11): reading said invariable image contents in encoded form from said read only memory and decoding said invariable image contents immediately preceding printing of said franking image.

Claims Text - CLTX (12): 6. A method as claimed in claim 1 wherein the step of converting said invariable image contents into invariable image binary data is further defined by converting said invariable image contents into invariable image binary data before beginning printing of said franking image.

Claims Text - CLTX (19): 9. A method as claimed in claim 1 comprising the additional step of runlength coding said variable image contents and said invariable image contents.

Claims Text - CLTX (23): 13. A method as claimed in claim 1 comprising the additional step of respectively identifying said variable and invariable image contents in encoded form with a control character identifying the image contents as variable or invariable.

Claims Text - CLTX (24): 14. A method as claimed in claim 13 comprising the additional step of sorting image contents in encoded form into variable and invariable image contents dependent on said control characters.

Claims Text - CLTX (30): printing said franking image with a plurality of printing elements and assigning an address to each printer element;

US-PAT-NO: 5650934

DOCUMENT-IDENTIFIER: US 5650934 A

TITLE: System for preparing and franking a mail piece

DATE-ISSUED: July 22, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Manduley; Flavio M. Woodbury	CT	N/A	N/A	

US-CL-CURRENT: 700/215, 705/407

ABSTRACT: An apparatus and method for producing mail pieces. The apparatus includes a first printer for printing documents and a second printer for printing envelopes and a mail finishing unit for receiving the printed documents from the first printer and the envelopes printed with corresponding addresses from the second printer and inserting the documents into the envelope to form and frank a mail piece. The apparatus operates under the control of a single stream of job data from a host computer, where the job data includes a job header defining default mail piece attributes and mail piece records which include document data and address data, and which may include specific mail piece attribute data for each corresponding mail piece. The apparatus control mechanism partitions the data stream and controls the first printer to print the documents while controlling the second printer to separately print the envelopes which are moved along a separate path to an insert station where the mail piece is formed. The apparatus also includes data stores of postal rates and of per item rating characteristics of items of materials used to form mail pieces.

18 Claims, 9 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 9

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Brief Summary Text - BSTX (18): In accordance with another aspect of the subject invention the apparatus includes a second printer which both prints an address on the mail piece envelope and prints a franking indicia on the envelope.

Detailed Description Text - DETX (17): Envelope printer 66 also stores the fixed portion of postal indicia to be printed on the envelope when the mail piece is to be franked in data store 67. When a mail piece is to be franked finishing unit controller 100 determines the weight of the mail piece and determines the appropriate postage value for the mail piece in a manner which will be described more fully below. Controller 100 then requests a postal indicia from a class 2 meter (not shown) which, assuming the request is granted, returns the variable portion of the indicia to controller 100. Controller 100 downloads this variable data to printer 66 together with address and other information to be printed on the envelope. Printer 66 then renders the full image to be printed on the envelope, combining the fixed portion of the indicia stored in data store 67 with the variable portion received from controller 100 to frank the mail piece.

Detailed Description Text - DETX (34): When monitor/controller 120 detects the presence of envelope data in buffer 118 it transfers the envelope data to envelope print driver 119 which controls envelope printer 66 to print the envelope data on the envelope in accordance with the previously determined attribute data defining the common elements of the envelope address and, for mail pieces to be franked, the variable portions of the indicia which have been determined by attribute generator 116 as will be described more fully below. It should be noted that, since envelope printer 66 includes an integral controller, driver 119 is substantially simpler than driver 124. And, as with print engine driver 124, the control of envelope printer 66, which is preferably an ink jet printer, is conventional and need not be described further here for an understanding of the subject invention except to note that buffer 118 is also somewhat larger than normal so that envelope data may also be recovered in the case of a jam.

Claims Text - CLTX (13): 6. An apparatus as described in claim 5 wherein said apparatus communicates with a class 2 postage meter, said meter returning at least a variable portion of a postage indicia to be printed on said envelope by said second printer and accounting for postage expended by said apparatus.

Claims Text - CLTX (34): 15. A system as described in claim 14 wherein said apparatus communicates with a class 2 postage meter, said meter returning at least a variable portion of a postage indicia to be printed on said envelope by said second printer and accounting for postage expended by said apparatus.

US-PAT-NO: 5651103

DOCUMENT-IDENTIFIER: US 5651103 A

TITLE: Mail handling apparatus and process for printing an image column-by-column in real time

DATE-ISSUED: July 22, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Arsenault; Robert G.	Stratford	CT	N/A	N/A
Pauly; Steven J.	New Milford	CT	N/A	N/A
Moh; Sungwon	Wilton	CT	N/A	N/A
Long; David N.	Cheshire	CT	N/A	N/A

US-CL-CURRENT: 358/1.18, 358/1.16

ABSTRACT: An apparatus for producing an image in a mail handling machine includes a printing device and a non-volatile memory having fixed and variable image data elements stored therein, a first portion of the fixed image data elements being stored in a compressed manner and a second portion of the fixed image data elements being stored in a bit map form. The apparatus further includes a first control device for identifying at least one of the variable image data elements stored in the non-volatile memory and associated with the image and a second control device for receiving from the first control device data corresponding to the at least one of the variable image data elements associated with the image and for downloading from the non-volatile memory and combining fixed image data elements associated with the image with the at least one of the variable data elements associated with the image and for utilizing the combined fixed and variable data elements associated with the image to cause the printing mechanism to print the image.

13 Claims, 5 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 2

----- KWIC -----

Abstract Text - ABTX (1): An apparatus for producing an image in a mail handling machine includes a printing device and a non-volatile memory having fixed and variable image data elements stored therein, a first portion of the fixed image data elements being stored in a compressed manner and a second portion of the fixed image data elements being stored in a bit map form. The apparatus further includes a first control device for identifying at least one of the variable image data elements stored in the non-volatile memory and associated with the image and a second control device for receiving from the first control device data corresponding to the at least one of the variable image data elements associated with the image and for downloading from the non-volatile memory and combining fixed image data elements associated with the image with the at least one of the variable data elements associated with the image and for utilizing the combined fixed and variable data elements associated with the image to cause the printing mechanism to print the image.

**Brief Summary Text - BSTX (2):** This invention relates to a process and an apparatus for generating images in real time, and more particularly to a process and apparatus for printing a postage indicia on a column-by-column basis in real time.

**Brief Summary Text - BSTX (3):** Traditional postage meters imprint an indicia on a mailpiece as evidence that postage has been paid. These traditional postage meters create the indicia using a platen or a rotary drum which are moved into contact with the mailpiece to imprint the indicia thereon. While traditional postage meters have performed admirably over time, they are limited by the fact that if the indicia image significantly changes, a new platen or rotary drum will have to be produced and placed in each meter. Accordingly, newer postage meters now take advantage of modern digital printing technology to overcome the deficiencies of traditional meters. The advantage of digital printing technology is that since the digital printhead is software driven, all that is required to change an indicia image is new software. Thus, the flexibility in changing indicia images or adding customized ad slogans is significantly increased.

**Brief Summary Text - BSTX (4):** Modern digital printing technology includes thermal ink jet (bubble jet), piezoelectric ink jet, thermal printing techniques, and LED and Laser Xerographic printing which all operate to produce images by dot-matrix printing. In dot-matrix ink jet printing individual print elements in the printhead (such as resistors or piezoelectric elements) are either electronically stimulated or not stimulated to expel or not expel, respectively, drops of ink from a reservoir onto a substrate. Thus, by controlling the timing of the energizing of each of the individual print elements in conjunction with the relative movement between the printhead and the mailpiece, a dot-matrix pattern is produced in the visual form of the desired indicia. However, in order to allow the printhead to produce the desired image, the entire image data are typically stored in an electronic non-volatile memory in a compressed manner, converted to binary data and downloaded and stored as a bit map in a temporary volatile memory, and then downloaded to the printhead driver. The indicia image contains both fixed and variable data. The fixed image data are the elements of the image that do not change. Examples of the fixed image data may include an indicia border, city and state of origin, meter number, zip code and other graphical information including advertising slogans. Variable image information is typically that image data which is changing on a per mailpiece basis such as the date, postage amount, or an encrypted value which is utilized to authenticate that a valid indicia has been printed. In order to print the full indicia, it is thus necessary to combine the fixed and variable data elements to create the required indicia for each individual transaction.

**Brief Summary Text - BSTX (5):** Postage meters utilizing digital printing technology typically combine the fixed and invariable image data into a complete bit map indicia image prior to printing. The image is conventionally combined by dedicating an electronic read-write memory (i.e. random access memory (RAM)) for use as temporary storage during the image element gathering stage. That is, while image data for the fixed and variable data are stored in a non-volatile memory (NVM), when an individual transaction takes place the postage meter microprocessor obtains the required

variable and fixed data elements for that transaction from the non-volatile memory and combines and downloads the required variable image data with the fixed image data into the electronic read-write memory as a bit map of the actual entire indicia to be printed, thereby using the RAM as a temporary storage of the bit map image. The microprocessor then downloads the bit map image to the printhead for printing. However, since the variable image data changes from mailpiece to mailpiece, the microprocessor must edit the bit map image for every indicia printed. Editing an indicia bit map image significantly affects the performance and cost of the postage meter since it 1) takes time to do thereby reducing throughput, 2) requires a large amount of RAM, 3) demands the use of a high speed microprocessor and 4) requires a large amount of additional code and associated memory to perform the editing function.

Brief Summary Text - BSTX (6): European Patent Application 0 578 042 attempts to solve some of the problems addressed above by combining the fixed and variable image data during the printing of individual columns of the image. However, the apparatus of the aforementioned European Application still utilizes a RAM as a temporary memory for building a bit map image of the entire fixed image for each transaction prior to printing. Since the amount of fixed image data is typically much greater than the variable image data, a great deal of editing on a mailpiece by mailpiece basis is still required by the microprocessor and the need for a large amount of RAM and a high speed microprocessor still exists.

Brief Summary Text - BSTX (7): What is needed is a postage meter having a bit map image generator which builds an entire indicia image on a column-by-column basis in real time as printing occurs thereby 1) eliminating the need for editing and the temporary storage of the image in RAM, 2) freeing the microprocessor to perform other functions, and 3) increasing the throughput capability of the postage meter. Moreover, by eliminating the need for the RAM and freeing the microprocessor to perform other functions, a high speed microprocessor is not required resulting in a reduced cost associated with implementing digital printing technology in a postage meter.

Brief Summary Text - BSTX (10): It is yet another object of the invention to provide a method for producing an image in a postage meter which precludes the need for storing more than a column of the image in a volatile memory prior to printing thereby increasing postage meter throughput, reducing memory requirements, and decreasing postage meter cost.

Brief Summary Text - BSTX (12): A) storing fixed and variable image data elements in a non-volatile memory;

Brief Summary Text - BSTX (13): B) selecting specific fixed and variable image data elements only for a single column of the image;

Brief Summary Text - BSTX (14): C) downloading and combining the selected specific fixed and variable image data elements directly from the non-volatile memory into a buffer;

Brief Summary Text - BSTX (15): D) utilizing the downloaded selected specific fixed and variable image data elements in the buffer for energizing a printing mechanism for printing the single column of the image; and

Brief Summary Text - BSTX (17): Yet another object of the invention is to provide an apparatus for performing the above method. This object is met by an apparatus for producing an image which includes a printing device and a non-volatile memory having fixed and variable image data elements stored therein, a first portion of the fixed image data elements being stored in a compressed manner and a second portion of the fixed image data elements being stored in a bit map form. The apparatus further includes a first control device for identifying at least one of the variable image data elements stored in the non-volatile memory and associated with the image and a second control device for receiving from the first control device data corresponding to the at least one of the variable image data elements associated with the image and for downloading from the non-volatile memory and combining fixed image data elements associated with the image with the at least one of the variable data elements associated with the image and for utilizing the combined fixed and variable data elements associated with the image to cause the printing mechanism to print the image.

Drawing Description Text - DRTX (4): FIG. 2 is representation of a postage indicia generated according to the invention;

Detailed Description Text - DETX (8): FIG. 2 shows a portion of a mailpiece 45 having an indicia image 47 imprinted thereon. The indicia image 47 includes a border 49, a graphical image 51, a city designation 53, a state designation 55, and a meter identification 57, all of which for the purposes of the preferred embodiment are considered to be the fixed portions of the indicia image 47. Also included as part of the indicia image 47 is the date 59 and the postage amount 61 which are the variable portions of the indicia image 47 which change on a mailpiece by mailpiece basis. Indicia 47 is simply a representative example of an indicia. One skilled in the art recognizes that various that various indicia images are possible which may include combinations of the elements set forth above or additional elements.

Detailed Description Text - DETX (14): FIG. 5 is an enlarged view of window w1 and shows that, for example, window w1 is made of 3 columns of data (Cn, Cn+1, Cn+2) with each column including 3 bytes of data (bytes 0-8). Drawing engine 39 fetches 3 bytes of window data for a particular column as discussed above and loads that data into column buffer 65 in a sequential bit stream directly after the previously loaded fixed indicia bit stream. When the last byte (byte 2) of variable column data for column Cn is loaded into buffer 65, the pointer returns to address An to continue with the loading of fixed data into the column buffer 65 for the remainder of the fixed data of column Cn located below window w1. When column buffer 65 has a bit stream

corresponding to the complete data of column Cn, the bit stream of data from column buffer 65 is loaded into driver buffer 67 for use in energizing the desired printhead elements 33a in synchronism with printhead 33 movement as previously discussed to produce the printed column Cn of combined variable and fixed indicia data.

**Detailed Description Text - DETX (18):** Additional advantages and modifications will readily occur to those skilled in the art. Therefore, the invention in its broader aspects is not limited to the specific details, and representative devices, shown and described herein. For example, a plurality of fixed indicia images and advertising slogans can be stored and accessed within the NVM. Additionally, various font sizes can be stored as bit map data to provide flexibility in selecting variable data element sizes. Furthermore, the data included in the indicia image can vary due to individual country postal requirements such that what is considered to be fixed and variable indicia data will also vary from country to country. Accordingly, various modifications may be made without departing from the spirit or scope of the general inventive concept as defined by the appended claims.

**Claims Text - CLTX (2):** (A) storing fixed and variable image data elements in a non-volatile memory;

**Claims Text - CLTX (3):** (B) selecting from the fixed and variable image data elements stored in the non-volatile memory only specific fixed and variable image data elements required for printing only a single column of the image;

**Claims Text - CLTX (4):** (C) downloading and combining only the selected specific fixed and variable image data elements directly from the non-volatile memory into a buffer;

**Claims Text - CLTX (5):** (D) utilizing the downloaded and combined selected specific fixed and variable image data elements in the buffer for energizing a printing mechanism for printing the first column of the image; and

**Claims Text - CLTX (7):** 2. A method as set forth in claim 1, wherein the step of printing a complete image includes printing a complete postage indicia.

**Claims Text - CLTX (12):** 7. An apparatus for printing a postage indicia image including:

**Claims Text - CLTX (14):** a non-volatile memory having fixed and variable postage indicia image data elements stored therein, a first portion of the fixed postage indicia image data elements being stored in a compressed manner and a second portion of the fixed postage indicia image data elements being stored in a bit-map form;

**Claims Text - CLTX (15):** a first control device for identifying at least one of the variable postage indicia image data elements stored in the non-volatile memory and associated with the postage indicia image;

Claims Text - CLTX (16): a second control device for receiving from the first control device data corresponding to the at least one of the variable postage indicia image data elements associated with the postage indicia image and for downloading from the non-volatile memory and combining the fixed postage indicia image data elements associated with the image with the at least one of the variable postage indicia image data elements associated with the postage indicia image and for utilizing the combined fixed and at least one of the variable postage indicia data elements associated with the postage indicia image to cause the printing mechanism to print the image.

Claims Text - CLTX (17): 8. An apparatus as set forth in claim 7, wherein the second control device includes at least one variable address register, and said first control device loads the variable address register with an address in the non-volatile memory corresponding to the one of the variable postage indicia data elements associated with the postage indicia image.

Claims Text - CLTX (18): 9. An apparatus as set forth in claim 8, wherein the fixed variable postage indicia image data elements are stored in the non-volatile memory to define a fixed portion of the postage indicia image, said fixed portion of the postage indicia image including a window therein identifying a location where the one of the variable postage indicia image data elements associated with the postage indicia image is placed by the second control device during combining of the fixed postage indicia image data elements associated with the postage indicia image with the one of the variable postage indicia image data elements associated with the postage indicia image.

Claims Text - CLTX (19): 10. An apparatus as set forth in claim 9, wherein the second control device causes the printing mechanism to print the postage indicia image on a column by column basis.

Claims Text - CLTX (20): 11. An apparatus as set forth in claim 9, wherein the second control device further includes a buffer and means for directly downloading from the non-volatile memory and combining into the buffer only fixed postage indicia image data elements required for printing a single column of the postage indicia image with a portion of the at least one of the variable postage indicia image data elements required for printing the single column of the postage indicia image, said second control device causing only the single column of the postage indicia image to be printed by the printing device.

Claims Text - CLTX (22): 13. An apparatus as set forth in claim 12, wherein the buffer has a memory capacity equal to an amount of data required to print the single column of the postage indicia.

DIALOG 05 JUNE 2002

File 2:INSPEC 1969-2002/Jun W1 (c) 2002 Institution of Electrical Engineers  
File 9:Business & Industry(R) Jul/1994-2002/Jun 04 (c) 2002 Resp. DB Svcs.  
File 15:ABI/Inform(R) 1971-2002/Jun 04 (c) 2002 ProQuest Info&Learning  
File 16:Gale Group PROMT(R) 1990-2002/Jun 04 (c) 2002 The Gale Group  
File 20:Dialog Global Reporter 1997-2002/Jun 05 (c) 2002 The Dialog Corp.  
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File 636:Gale Group Newsletter DB(TM) 1987-2002/Jun 04 (c) 2002 The Gale Group  
File 810:Business Wire 1986-1999/Feb 28 (c) 1999 Business Wire  
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File 608:KR/T Bus.News. 1992-2002/Jun 05 (c) 2002 Knight Ridder/Tribune Bus News

Set	Items	Description
S1	19677	(EVIDENCE OR PROOF OR INDICATE OR INDICATING OR INDICATION) (5N) (PAYING OR PAID OR PAY OR PAYMENT)
S2	126	S1 (5N) (IMPRESSION OR MARKING OR MARK OR IMAGE OR IMPRINT OR TOKEN OR INDICIA)
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S4	13741	S3 (5N) (IMPRESSION OR MARKING OR MARK OR IMAGE OR IMPRINT OR TOKEN OR INDICIA)
S5	27	S2 AND S4
S6	12	S2 (S) S4
S7	27	S5 OR S6
S8	27	RD S7 (unique items) [Scanned ti,kwic all]

17/9/32 (Item 1 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB (c)2000 The Gale Group. All rts. reserv.

11582513 SUPPLIER NUMBER: 54225152 (THIS IS THE FULL TEXT)

Billpay, revisited.(Trisense Software's PaySense)(Brief Article)

Bielski, Lauren

ABA Banking Journal, 91, 3, 56(1)

March, 1999

DOCUMENT TYPE: Brief Article ISSN: 0194-5947 LANGUAGE: English

RECORD TYPE: Fulltext

WORD COUNT: 225 LINE COUNT: 00021

1 TEXT:

2 As we said in February (see Billpay p.54), electronic bill presentment is finally coming  
3 on-line in 1999. Another company with a solution designed to embrace rather than disintermediate  
4 banks, is Trisense Software, Ltd. The company's secure, email based solution, PaySense, works  
5 as follows:

6 1. Statements or invoices are prepared for printing by existing host billing software;  
7 2. The PaySense Bill server (controlled by the bank or biller) translates print file into bill  
8 images;  
9 3. PaySense bill server places each bill image into a customer's private bill mailbox;  
10 4. Customers use free PaySense smart viewer software to pick up their bills;  
11 5. Customers review bills and schedule payments with the PaySense smart viewer;  
12 6. The PaySense smart viewer places payment instruments in a biller's private mailbox;  
13 7. PaySense bill server collects payments, prepares deposits, and updates biller's host.

14 Trisense says that firewalls and encryption are "only the beginning" of its security  
15 measures. PaySense provides anonymous communication over the Internet; sensitive data (e.g.,  
16 name, account number) is never sent or stored on the Internet. Instead, it is stored on each  
17 end-user's C-drive where it is re-populated into the bill when it arrives (at the user's computer).  
18 A numerical code is used to ensure that the biller sends the correct bill.

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8/9/1 (Item 1 from file: 15)

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01472529 01-23517

New postal imprinting to affect Soho

Anonymous

Managing Office Technology v42 n6 PP: 13 Jun 1997

CODEN: MOFTDB

ISSN: 1070-4051

JRNL CODE: MOP

DOC TYPE: Journal article

LANGUAGE: English

LENGTH: 1 Pages

WORD COUNT: 274

1 ABSTRACT: Digital identification - the greatest change in postal imprinting - is expected  
2 to be in test use in the US by fall 1997. The main component will be small electronic postage  
3 meters that attach to a personal computer and allow users to refill postage via the Internet or by  
4 telephone using credit cards or smart cards for payment.

5 TEXT: The greatest change in postal imprinting--digital identification--is expected to be  
6 in test use in the U.S. by the fall of this year. The main component of this revolutionary change  
7 will be small electronic postage meters that attach to a personal computer and allow users to refill  
8 postage via the Internet or by telephone using credit cards or "smart" cards for payment.

9 With the new Information Based **Indicia** Program (IBI) postal system, **proof of payment**  
10 of postage will also be "intelligent," thanks to the use of a barcode symbol imaged onto the upper  
11 right-hand corner of each envelope by the user's PC printer. The postal authorities are  
12 incorporating methods they hope will foil even the most dedicated and sophisticated hackers. Each  
13 imprint carries unique information, creating a totally individualized and traceable entity. There's  
14 also room for a small advertisement.

15 "This is a giant breakthrough," says Richard Ekstract, chairman of the Home Office  
16 Association of America, Inc. (New York, NY). "Before, home office business users had to make  
17 a special trip to a local post office and stand in line to purchase stamps. That could take 30  
18 minutes or more. The alternative was to lease a postage imprint machine. These are often bulky  
19 and not inexpensive."

20 The current concept requires a Postal Security Device, a unique device that holds the  
21 monetary registers that are the cashbox of postage use. As part of the indicia generation process,  
22 it provides the monetary information to the host system, which will have software interacting with  
23 the user.

24 (Illustration Omitted) Captioned as: This is a mockup of what the IBI might look like in the  
25 right-hand corner of an envelope.

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